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An Address

ENTITLED

SOME REMARKS ON THE APPLICATION OF THE PRINCIPLES OF SURGERY TO THE TREATMENT OF INJURY AND ACUTE INFECTION WHEN OCCURRING WITHIN THE ABDOMEN.

Delivered at the Annual Meeting of the Clinical Society of Manchester on Oct. 4th, 1904,

BY CHARLES A. BALLANCE, M.S. LOND., F.R.C.S. ENG.,

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MR. PRESIDENT AND GENTLEMEN,—Injuries and acute infections demand the application of the same surgical principles in whatever part of the body they may happen to occur. Traumatic and infective lesions within the abdomen afford no exception to this rule; the rather do they call more urgently for timely and adequate surgical aid, as they afford less opportunity for the rectification of an initial error of judgment than do similar lesions in many other parts of the body.

ABDOMINAL INJURIES.

Let me in the first place draw your attention to intra-abdominal injuries. Two thousand years ago Celsus[1] wrote: "Wherever there is an injury from which survival is possible the immediate indications are two—to see that neither profuse hæmorrhage nor inflammation terminate life." To arrest hæmorrhage and to prevent infection are still the two dominant indications in the treatment of injuries whether within or without the abdomen. In the days of Celsus, as in our own, hæmorrhage was arrested by ligature or plugging. The means of preventing infection are considerably elaborated at the present day but were not wholly unknown to Celsus, for he tells us that no wound should be sutured "until the depth of the wound has been cleansed so that no clot remains, for this becomes converted into pus, excites inflammation, and prevents union." Having met these two primary indications, what else remains to be done? In some cases nothing more than to unite the skin wound; in a few not even that. In most, however, other steps must be taken in order to insure the most perfect restoration of function that in the particular circumstances is possible. Let us suppose a person has received a deep cut across the front of the wrist from a circular saw. The surgeon, besides arresting hæmorrhage and preventing wound infection, ascertains exactly what is the extent of the damage, if needful enlarging the wound for the purpose, removes foreign bodies, or structures injured beyond possibility of repair, and unites any divided tendons or nerves before finally cleansing and uniting the wound.

In general surgery, then, the indications for the treatment of an injury are: (1) to arrest hæmorrhage; (2) to prevent wound infection; (3) to ascertain the nature and extent of the injury; (4) to remove foreign bodies or dead tissue; (5) to place damaged structures under the best possible conditions for repair with restoration of function; and (6) to cleanse and to unite the wound. In injuries within the abdomen precisely the same steps should be carried out. An external wound is visible; a grave intra-abdominal wound must be rendered visible and accessible by operation before it can be dealt with on Celsian principles. This is the only difference the surgeon should recognise between an intra-abdominal and an extra-abdominal wound. In a grave political crisis Richelieu[2] said to Louis XIII.: "There are two means by which the safety of the King and State may be secured; one depends upon the blessing of Heaven, the other on the prudence of the King." So, also, in a grave intra-abdominal injury the safety of the patient depends upon two conditions: (1) the nature and extent of the lesions; and (2) the greater or less promptitude with which operation is performed. Over the first we have no control but if we see the case early we are largely responsible for the second. What, then, are the signs which should lead us to diagnose a grave intra-abdominal injury and therefore to operate? *They are not, and they ought never to be, the signs of peritonitis.*

A great French surgeon[3] well says: "Thanks to the abuse of the deceptive theory of 'armed expectation' it happens that operation is refused in the first few hours because there are not enough symptoms and later on is still refused because there are too many and the injured man, who might have been saved by a bold and rational decision, after a period of deceptive apparent amelioration, ends by dying on the fifth, sixth, seventh, or tenth day. Such is the rapid and terrible ending which is to be feared when the first signs of peritoneal infection are waited for before operating. What in the teaching of the advocates of abstention is called the time to operate is really the time when it is too late to operate, for we know only too well from daily examples how variable and uncertain are these first peritoneal symptoms which it has been sought to make the indication for operation."

I take it that one of us is called early to a case of intra-abdominal injury without external wound. Some account of the accident will probably be forthcoming, at least such as to suggest the possibility of grave injury. The patient when seen is very pale, the face and the extremities are covered with beads of sweat, the expression is anxious, he either does not speak at all or only with broken words, respiration is rapid and shallow, the abdomen is more or less tender generally, and there may or may not be local surface bruising. "These are the signs of shock, of abdominal shock, and if they are the only signs present we know nothing and for a while can know nothing as to the existence or otherwise of a grave intra-abdominal lesion." Shock *per se* does not indicate operation and its degree is no indication of the gravity of the lesion; profound shock may occur without grave injury and grave injury may be present without initial shock. Persistence of shock is a surer indication of grave injury than the degree of initial shock.

Shock is treated by rest, warmth, hypodermic injection of strychnine in fairly large dose (say one-fifth of a grain), bandaging the limbs, and saline infusion into the rectum and subcutaneous tissue. (The intravenous injection of saline solution fails if bleeding is continuing, as it escapes through the wounded vessel.) We watch the case attentively until it is possible to decide whether laparotomy is called for, as it certainly is, and that forthwith, if there is grave visceral lesion or continuing internal hæmorrhage. If the patient rapidly regains warmth, if the pulse should resume its normal rate and volume, if the expression is good, the abdomen is but little tender, not rigid, and not distended, especially also if the patient has passed flatus by the bowel, and normal urine, and has either not vomited at all or has only done so immediately after the accident and the vomit is free from blood, we have every reason to hope that no grave damage has been done, certainly that immediate operation is not called for though the case is as yet by no means safe. If, however, after an hour or two the pulse is still frequent and small, or if, after being improved by saline injection or strychnine, it rapidly relapses, if the temperature is subnormal, the tongue and extremities are cold, the patient is restless, anxious, breathless, and the abdomen is tense and tympanitic; if there is fixed or shifting dulness in one or other groin or flank or resonance over the liver, if no urine and no flatus have passed, then we must operate, and operate at once. "Grave and anxious will be our operation but it will be still more so in another two hours, for the patient will then be more anæmic or more infected. To-morrow, perhaps even this evening, will be too late, let us not therefore wait for a superfluous confirmation of the gravity of the injury." No patient who has met with such an accident as would be likely to give rise to a lesion of the abdominal viscera should be considered safe unless after the lapse of 48 hours he presents: (1) a flat and mobile abdomen; (2) a normal

[1] Liber v., Cap. xxi.

[2] Martin Henri: Histoire de la France, tome xi., p. 415.

[3] Félix Lejars: Chirurgie d'Urgence.

pulse; (3) has passed normal urine; and (4) has passed normal alvine evacuations.

The gravest visceral lesions may occur without any visible lesion of the abdominal wall and without any initial symptoms of shock. Many years ago a young man walked unaided into the casualty room of St. Thomas's Hospital some six hours after he had been kicked in the abdomen by a horse; he complained of some pain but did not seem in much distress and no objective signs of injury were made out. He was admitted: in a few hours the signs of peritonitis began to appear and he died the following day. At the post-mortem examination the small intestine was found almost completely torn through. In some at least of such cases it is probable that the serous coat is not torn through at the time of injury but gives way subsequently. A broken bone is thus sometimes held together temporarily by the untorn periosteum. A ruptured intestine cannot, however, become impacted like a broken bone.

Among the symptoms of internal abdominal injury four are specially important and trustworthy. 1. Permanent and progressive feebleness and frequency of the pulse, especially if combined with pallor, a general state of anxiety, of depression, or of delirious excitement. This pulse and these symptoms are indications of internal hæmorrhage. Abdominal tenderness present soon after an injury or soon after the onset of acute symptoms (e.g., in ruptured tubal gestation) may indicate hæmorrhage rather than inflammation, as was pointed out by Dr. C. J. Cullingworth in his Harveian oration. 2. Loss of liver dulness with progressive gaseous distension of the abdomen, or tenderness and resistance of the parietes. This indicates perforation of the gastro intestinal tract. Abdominal distension due to dilatation of the stomach and bowels with gas from intestinal paralysis has been mistaken for free gas in the peritoneal cavity. 3. Limited dulness on percussion without distension also is produced in some cases of perforation from escape of the solid bowel contents. 4. Shifting dulness in one or both flanks as is observed in cases of ruptured bladder or large hæmorrhage.

The value of the pulse as an indication is shown by two cases given by Félix Lejars. 1. The persistence of a rapid and feeble pulse led him to operate on a man, 35 years of age, who had sustained an abdominal injury. He found three long rents in the mesentery which were still bleeding at the time of operation (two hours after the accident). 2. A man met with an abdominal injury at 4 P.M. At 10 the same evening the temperature was 96·2° F., but the pulse was full and of almost normal frequency with well-defined beats (*bien frappé*). No operation was performed and the next day the temperature was normal.

Internal hæmorrhage is generally accompanied by a subnormal temperature but the temperature alone is not a guide. If, therefore, we are called to the case early and the patient's condition and symptoms are such as to make it certain or probable that there is internal hæmorrhage or perforation we should never wait for the uncontrollable vomiting, the rapid pulse, the distended abdomen, the blue pallor, and the sweating of septic peritonitis but operate at once. If, however, we are called late and there is already peritonitis we shall have much less chance of success, but still operation affords the only chance and is justified by the successes obtained by the more perfect and thorough operations performed in recent years. It is in these desperate cases when the field is almost lost that

> "the unconquerable will
> And courage never to submit or yield"[4]

of the practitioner have been the salvation of many lives both in medical and surgical practice.

Ruptured spleen, ruptured liver, torn mesentery, and ruptured tubal gestation are examples of lesions which produce grave intra-abdominal hæmorrhage. Why wait in the futile expectation that nature will do what it is our obvious duty to perform? No one looks on while bleeding from a limb is continuing: how can any one of us be justified in remaining inactive while bleeding is going on in the abdomen? As soon as the peritoneum is opened and the pent-up extravasation gushes out the state of collapse always shows signs of amelioration. To operate with method and despatch for the relief of an abdominal injury we should be prepared to arrest hæmorrhage, to suture a hollow viscus, or to remove a damaged organ. Foresight and preparation made the difference between Lucknow and Cawnpore. In the absence of any express indication to the contrary the incision is commenced in the middle line below the umbilicus. No pinhole opening suffices for accurate diagnosis or for efficient treatment. The original incision may require extension and a second one may be needed.

The obvious injury may not be the only one; it may not even be the most important one. A man let fall an earthenware basin filled with the phosphorus compound used in making matches and it immediately exploded; he was admitted to hospital about two hours later. There was a perforating wound of the lower abdomen through which omentum protruded, the left hand and forearm were shattered, and there were some minor injuries. On the arrival of the surgeon some two hours later amputation was performed above the elbow-joint, the abdominal wound was enlarged, the protruding omentum removed, and the wound closed. The patient recovered from the anæsthetic and was able to recognise his friends; after some hours he became collapsed and died. At the post-mortem examination the small intestine was found completely cut through and there was a piece of the earthenware basin inside the abdomen.

ACUTE ABDOMINAL INFECTIONS.

I now pass on to make a few remarks on acute abdominal cases in which peritoneal infection is the main factor. The general surgical principles of the treatment of an acute infective disease are: 1. To give free exit to the infective material and so to prevent further absorption and consequent extension of mischief. 2. To render the seat of inoculation harmless by simple incision and antiseptic flushing, by ablation, or by ligation of the efferent vein. The earlier the intervention the less extensive are usually the operative measures required and the more rapid and complete is the recovery.

Acute infections on the surface of the body for the most part arise from direct inoculation from without. In acute intra-abdominal infections it is almost always some injury or local disease of the alimentary tract, the bile passages, or the female genital organs which allows of septic inoculation of the peritoneum. Intra-abdominal infections are therefore all preceded by a stage in which the disease is purely local and can be ablated or rendered harmless by a comparatively simple operation. Our aim should be to operate while the disease is still local for exactly the same reason that we would not postpone operation on an infected finger until the tendons had sloughed, the axillary glands had suppurated, or the patient had manifested the symptoms of general septic infection. Within the abdomen, as with injuries so with acute infections, the seat of disease has to be found and rendered accessible by a preliminary surgical measure before it can be adequately dealt with, but this does not alter the surgical principles on which they should be treated.

A consideration of all the various pathological conditions which give rise to these acute infections is quite beyond the scope of the present paper. Some give rise to no symptoms or none which we have as yet learned to appreciate. Others can often be diagnosed before the peritoneum is infected. As a type of intra-abdominal infection I take appendicitis. Much attention has been paid to the appendix during the last 20 years; indeed, it seems that the itch of disputing about the appendix has seized on the whole profession, and it is a matter for congratulation that we have not yet seen a special class of appendix removers arise as in bygone days there was a special class of "cutters for stone." In a recent communication to THE LANCET appendicitis is referred to as a "new disease." "New" is, of course, a relative term, but an excellent coloured illustration of a diseased appendix is given in Lebert's "Traité d'Anatomie Pathologique" (1850) and the more serious results are described in the text. It is not there termed "a new disease." Indeed, if we go back to the writings of Hippocrates we find a word picture of its clinical course and fatal termination. It is the rational surgical treatment of appendicitis that is of quite recent date and even now too many cases end fatally "because no Seer but only mere Onlookers chanced to be there"[5] at the beginning.

Experience has demonstrated (1) that appendicitis can almost always be diagnosed before the damage is irreparable, and in most instances before life is seriously endangered;

[4] Paradise Lost, book i.

[5] Carlyle on History.

(2) that the infective focus can be ablated with safety and certainty in the earlier stages—i.e., previously to peritoneal infection; (3) that permanent recovery cannot be insured without operation; and (4) that it is impossible to foretell what will be the course of any particular case, however little it may at first seem to threaten serious results, for, as Sir Thomas Browne said, "Many things happen not likely to ensue from any promises of antecedences."[6] A writer whose name is known wherever abdominal surgery is studied has well said: "To me there appears to be no excuse, no explanation, no justifying hope that relieves the patient of the dangers of this disease."[7]

The dangers of temporisation in appendicitis are the risk of abscess formation, the risk of generalised peritonitis, and the risk of general septic infection. These three risks—namely, (1) local destruction; (2) diffuse spreading inflammation; and (3) systemic infection—attend any septic focus, wheresoever situated, which is left untreated. In the ear the local destructive process is caries and destruction of the tympanum, the diffuse spreading inflammation is acute necrosis of the temporal bone with sloughing of the dura mater, and the systemic is, as elsewhere, sapræmia or pyæmia. An abscess in a case of appendicitis is an evidence of an opportunity lost.

Cases of appendicitis may be arranged surgically into groups according to the time at which they are seen. 1. Early cases, in the first 48 hours, before rupture or perforation of the appendix has taken place. 2. From the second to the fifth day when inflammation is active and increasing, and local peritonitis has commenced. Abscess or the inflammatory condition preceding abscess is present. 3. From the fifth day and onward, when the abscess is being localised, or the inflammation is undergoing resolution, or aggravation has taken place and general peritoneal infection is present or is immediately threatened. 4. In the interval between attacks. There may be no symptoms and there may or may not be an abiding tumour. 5. Lastly, there are the cases in which the patient is not seen until there is already general peritonitis; this is usually a late occurrence but it may occur with the first symptoms or suddenly after a period of deceptive calm. On the treatment of local abscess and general peritonitis little need here be said; no question can arise as to the urgency of immediate operation. It is about cases in the early stage and in the acute spreading stage before the presence of abscess is certain that so much (needless) difference of opinion has been expressed. Surgical intervention cannot well be more urgent than in the acute septic forms of appendicitis with early perforation or sloughing of the appendix; on the other hand, it is common knowledge that many cases run quite a mild course and get well without any surgical intervention whatsoever. The view that immediate operation is the safest course in most cases is gradually gaining ground, though there are few hard-and-fast rules in surgery. My colleague, Dr. Lees, in his Harveian lectures recommends in certain subacute cases of appendicitis instead of immediate operation the local application of the ice-bag, and many physicians put their trust in morphine. I venture to suggest that such cases should be treated by ice and magnesium sulphate rather than by ice and morphine. Morphine should be given only when the decision to operate has been taken.

It was, and still is, advocated that operation should be avoided if possible during the acute stage and the appendix excised when the acute symptoms have subsided. But will the acute attack subside? By no means always, and by the time it is clear that the acute attack will not subside without surgical intervention it is only too often equally clear that the patient will die. The rapidity with which the transformation from apparent mildness to malignancy takes place is sometimes so great as to elude the most careful watching. "A young woman five months pregnant had an attack of appendicitis which seemed slight, the appendicular region was in fact supple, the tongue moist, the face not anxious, temperature 100°; there was no nausea; flatus was passed by the bowel. But at 8 the following morning she had acute pain followed by rigors, high temperature, and acceleration of pulse. Operation was done a few hours later but peritonitis was already generalised and the patient died in a few days."[8] The great French obstetrician Pinard,[9] speaking of appendicitis complicating pregnancy, said that "by operating always and as early as possible women attacked with appendicitis with localised manifestations would always be cured of their appendicitis and would in most instances carry their pregnancy to term; while women attacked by appendicitis with grave manifestations would in most instances get well though they would almost always miscarry ..... every appendicitis diagnosed during pregnancy calls for operation." Why restrict this advice to appendicitis complicating pregnancy?

The ideal plan of treatment is to remove every diagnosable inflamed appendix before the peritoneum is involved. As John Hunter wisely said, "A fixed principle fixes the mind but a doubtful one leaves it no rest."[10] Operation in this first stage can be carried out with no greater risk or difficulty than in the "interval" stage and the patient will get well forthwith without a dangerous and prolonged illness. A distinguished physician whom you all know by name at least, and with whose writings I hope you are familiar, speaking some years ago of an obscure abdominal case, said, "She was obviously too well to justify our calling in a surgeon." Quite the wrong view of the place of surgical intervention in the treatment of disease is expressed by these words. It is this view that has led to so many cases of appendicitis being left unrelieved until general suppurative peritonitis has supervened, that kept the mortality for operation for strangulated hernia until recent years at a high figure, and that is still responsible for many of the deaths from internal obstruction of bowel and other grave abdominal disorders.

Legueu,[11] who vigorously advocates early operation as the proper treatment of all cases of appendicitis, says:—

> Ask any surgeon, turn over the pages of any medical journal, and you will come across instances of those distressing cases where operation done too late has proved powerless to arrest the progress of lesions which have become too extensive. At a discussion on the subject at the Surgical Society (of Paris) a considerable and lamentable number of cases of suppurative peritonitis were brought forward.

Kirmisson	reported	16 cases.	Michaux	reported	8 cases.
Broca	,,	22 ,,	Peyrot	,,	22* ,,
Tuffier	,,	10 ,,	Legueu	,,	10† ,,
Routier	,,	13 ,,			
Chaput	,,	17 ,,	Total		128 ,,

* Out of 102 cases of appendicitis operated on in the Lariboisière Hospital. † Out of 37 cases of appendicitis.

> Here then are 128 cases of generalised peritonitis occurring in a few months in the practice of a few surgeons—128 cases of peritonitis of which the mortality was at least 80 per cent. What can be thought of these figures if not that medical treatment and temporisation pushed too far have had their share in the aggravation of the lesions and in the failure of the operations? Even admitting that many of these cases of appendicitis were from the first hypertoxic cases which are capable of deranging all our resources of treatment, there still remains a considerable proportion of cases which were at first simple and mild but which in spite of medical treatment became progressively worse and soon gave rise to irremediable lesions. If, on the other hand, the whole series of cases had been submitted less tardily to operation, early operation would have given us better results than 20 per cent. of recoveries. Of the 80 per cent. who died at least one-half were the victims of medical treatment.
>
> The prospect of spontaneous recovery and of medical treatment is a decoy to rely on which is to be led into a snare; when once an appendicitis has commenced, whatever may be its aspect, we never know what it will become; and since the patient is now in any case condemned to operation at some time or other he may as well be assured of its benefits at once.
>
> To be quite just, opportunists, I mean opportunist surgeons, do not restrict themselves to systematic inaction. They have a lively dread of any aggravation and do not abandon the patient to himself or even to medical treatment. On the contrary, they exercise a constant and minute supervision, they themselves see the case twice a day, and twice a day they examine the iliac fossa and pay attention to the pulse, the temperature, and the aspect of the patient. They are quite ready to intervene the moment that any indication of aggravation arises, they maintain that in this way they can forestall peritonitis or septicæmia. This line of conduct at first sight seems altogether rational. But in appendicitis all is deceptive and the most rigorous supervision may be found at fault for three reasons:—(*a*) because in the course of appendicitis there are often treacherous periods of calm; (*b*) because aggravation is sometimes so rapid as to derange all measures of precaution; (*c*) lastly, because the symptoms which reveal this aggravation are neither constant nor reliable.
>
> Even with the most rigorous supervision temporising exposes the patient to the risk of irreparable damage. For some patients who have got well with medical treatment there are others who have died victims of this same medical treatment and of temporising. I hold then as injurious this practice of applying medical treatment in order to wait, watch, and operate should occasion arise. I have often regretted operating too late, but I have never had any occasion to repent of having operated too soon; early operation does away with all the dangers of temporising.

As I have seen in one month six fatal cases of general peritonitis from appendicitis it is not surprising that I am impressed with the tremendous danger of

[6] Christian Morals, Section vi.
[7] Murphy: American Journal of the Medical Sciences, August, 1904.
[8] Case quoted from Legueu.
[9] Appendicite et Grossesse, Annales de Gynécologie et d'Obstétrique, March, 1897, p. 177.
[10] Quoted from THE LANCET, Feb. 20th, 1904, p. 491.
[11] Traitement de l'Appendicite.

appendicitis and that I consider that to advise against early operation is only too frequently to "speak peace when there is no peace."

Some years ago I was called to see a stout woman about 45 years old. Her temperature was 101° F. and her pulse was 120. She had suffered violent pain for several hours and had vomited several times. At the time of my visit pain had nearly ceased. The abdomen was tender, especially on the right side. Operation was performed about 13 hours after the onset of the symptoms. The thickness of the abdominal wall necessitated a very long and deep incision. A greyish-black appendix was found free in the abdomen lying against the cæcum. The cæcal stump was short. There was no visible peritonitis. The patient made a rapid recovery. No suppuration occurred.

It is sometimes said that the first attack, on account of the absence of adhesions, is the most dangerous; but only last week I had occasion to operate for general peritonitis which occurred suddenly in a man of the age of 21 years who had had several previous mild attacks of appendicitis. The operation was performed at the fortieth hour from the commencement of the attack, but there was already intense peritonitis from the pelvis to the diaphragm.

If the case when seen has already passed into the second stage should we operate? At least 50 per cent. of the practitioners of England would say "No." I say "Yes" and in this I am supported by Murphy[12] of Chicago who, from his unrivalled experience of over 2000 operations for appendicitis, says, "Should we operate in the second stage, during the increasing or spreading inflammatory process, which may mean anywhere from the second to the fifth day? In this stage we may have the circumscribed abscess around the appendix, the active inflammatory process of the neighbouring tissues or organs, or the early pathological changes of a circumscribed or general peritonitis. We often find the temperature and pulse high, meteorismus, intestinal paralysis, and acute infected tissues, with manifestations of severe intoxication. These patients will not stand extensive manipulations. They are already fully burdened with the toxins and this intoxication must not be increased or the patient will be sacrificed. Shall we operate? Yes, and in this stage. But the operation must be a limited one—that is, simple opening and relief of pus tension in the affected area with the removal of the appendix if it be accessible and easily amputated. There should be the least possible separation of agglutination or other trauma to the infected tissues. Agglutinations and adhesions are life-saving, both in circumscribing the process and in rendering the local tissues unfit for absorption. I am convinced that the great mortality which has been reported in operations in the second stage has in a great measure been due to excessive manipulation, sponging, flushing, adhesion separating, and *prolonged operation*. The deaths in these cases of acute infection are due to the depression resulting from a sudden absorption of an overwhelming dose of toxin; this absorption is favoured by the manipulations mentioned."

Let us now contrast the treatment of an acute infective focus in the peritoneum with the treatment of a similar infection occurring in the soft parts of a limb. In acute spreading cellulitis we make a free incision or incisions and avoid all unnecessary manipulations. Drainage and possibly irrigation between separate openings are employed. If we will treat the peritoneum with the same consideration we shall have equally gratifying results. Therefore in acute inflammation spreading from appendicular infection free incision and drainage is the right treatment without unnecessary trauma and without needless irrigation which is a form of trauma. The same treatment may be carried out even when the anterior parietal peritoneum is not agglutinated to the spreading inflammation within, for the use of sterilised tampons will effectually shut off the rest of the abdominal cavity and further promote efficient drainage. We do not treat acute inflammation of the palm of the hand on the expectant plan to see whether the abscess will become localised or to what extent sloughing will take place. In many cases, no doubt, a small abscess with limited local destruction would result and no great permanent damage be done, but what of the others? Is acute inflammation any less dangerous in the appendix? The course of the disease is even less under control and disaster occurs with far less warning.

[12] Loc. cit.

In at least 90 per cent. of cases[13] of acute abscess the appendix is not destroyed and therefore the cure of an abscess does not insure the patient against recurrence. I recently met with a case where a second acute abscess from appendicitis occurred 12 months after the cure of a first. This is no reason for routine removal of the appendix in every case of acute abscess, but it is an argument for removing the appendix in the quiescent stage after the acute abscess has been drained and healed. In many instances I have done this and have always found the appendix. Ruskin[14] said: "There is no wealth but life," and in the spreading stage of appendicitis, as in many other circumstances, life must not be endangered for ideal completeness of operation. This principle was aptly emphasised by my late friend Greig Smith[15] when, in speaking of operations on the intestines, he said: "In every case the saving of life should be the single aim in view. Better leave an intestinal fistula in a living body than a water-tight junction in a dead. It is poor surgery that, in getting a perfect operation, kills the patient."

In the third stage I agree with Legueu who says: "Finally, if called during the decline of an acute attack when it is well established that the patient has passed through the stormy phase, and when amendment has taken place in the whole train of symptoms, it is better not to operate at once but to await the complete subsidence of the attack and to operate four or more weeks after the cessation of all symptoms." Any doubt as to the favourable course of the case should be met by operation.

The removal of the appendix in the "interval" stage is still considered by many the ideal treatment and is now such an ordinary occurrence that it would seem almost superfluous to say anything further about it. It is not, however, always an easy operation and there is one important point about it that has not received sufficient attention: peritoneal infection may occur or may be demonstrated during the operation. If the surgeon has the slightest reason to suppose that peritoneal infection has occurred gauze drainage should be used, and if after the operation any peritoneal symptoms should arise he must have the courage promptly to reopen the wound and to drain the infected area. I know how hopeless such an intervention may appear but it does give the one chance of life, and after all—

> "He that is valiant and dares fight,
> Though drubb'd, can lose no honour by't."[16]

Any surgeon may have a death from an "interval" operation and such a disaster may, I well know, happen some day to me, but the adoption of gauze drainage in a doubtful case practically insures the patient against a fatal result. For example, I found at one operation a large fæcal concretion, which had obviously escaped during the acute attack, lying beside an adherent appendix. Gauze drainage was used and the patient made a good recovery. It was rather remarkable that the father of the boy threatened an action for damages because the wound had not healed by the first intention. Again, quite recently, in operating upon an "interval" case I met with a long appendix imbedded in adhesions. On removing the appendix it appeared to me that there were granulations in the bed from which the tip had been dissected out; gauze drainage was used and the patient made a good recovery. I mention these instances merely to show that though "interval" cases may be difficult the result will be satisfactory, provided the surgeon will employ drainage when the circumstances require it. Anxiety will only arise when the surgeon will not in any circumstances use a drain.

Setting aside urgent symptoms, such as persistent vomiting, severe pain, intestinal obstruction, pulse persistently at 110 or over, delirium, high temperature and rigor, which everyone will admit indicate a grave course and demand instant operation, what are the symptoms which will justify a diagnosis of appendicitis? Murphy[17] thus describes them: "The symptoms in the order of their occurrence may be mentioned as: *first*, pain in the abdomen, sudden and severe, followed by, *second*, nausea or vomiting, even within a few hours, most commonly between three and four hours after the onset of pain; *third*, general abdominal sensitiveness, most marked in the right side, or more particularly over the appendix; *fourth*, elevation of temperature, beginning from two to 24 hours after the onset of pain.

[13] See papers by Mr. Rutherford Morison, THE LANCET, Feb. 23rd, 1901, p. 533, and an address before the Halifax Medical Society, October, 1903.
[14] Unto this Last.
[15] Abdominal Surgery.
[16] Hudibras.
[17] Loc. cit.

In severe cases the temperature reaches 102° to 103° between eight and 12 hours after the initial pain. The symptoms occur almost without exception in the above order and *when that order varies I always question the diagnosis.* If the nausea and vomiting or temperature precede the pain I feel certain that the case is not one of appendicitis." As to pain, Murphy further says: "When it subsided suddenly, as it sometimes did, within the first 36 hours, the subsidence was due either to liberation of the infective material through the neck of the appendix into the caput coli, rupture of the appendical wall, or complete gangrene of the appendix. Under these conditions the pus pressure was relieved and the pus absorption diminished or stopped. With the cessation of pain in these cases, whether it was due to gangrene, intestinal escape, or perforation, came the diminution or cessation of absorption *but not* necessarily a *diminution* or *cessation of danger*, as is so commonly though erroneously interpreted, and often with fatal result. The secondary pain, after the first 36 hours, is usually not colicky in character but of the typical inflammatory type and due to periappendical involvements. Severe pain after the primary subsidence is always a signal of great danger, as it announces a beginning peritonitis from perforation." Murphy lays great stress on the order in which the symptoms occur and on the occurrence of fever in the early stage. He says: "I would not operate on a case where I was confident that no rise of temperature had been present in the first 36 hours of the disease."

Dr. W. M. Willoughby, in his suggestive thesis for the degree of M.D. Cambridge, entitled "The Site of Referred Pain in Visceral Disease from an Embryological Standpoint," lays stress on the fact that the alimentary canal has its origin in a vertical tube placed in the middle line and is therefore bilaterally innervated. The appendix then was originally a median organ and this offers an explanation of the clinical observation that in early appendicitis the pain is often bilaterally situated close to or across the middle line just below the umbilicus. Dr. Willoughby adds that if sought for a bilateral hyperæsthetic area will be found in this situation. The pain of early appendicitis may therefore be, and certainly sometimes is, mistaken for ordinary median stomach ache.

There is, on this occasion, no time to discuss the value of individual symptoms or signs but reference may be made to three. The first is that incontinence or retention of urine often occurs, probably owing to the bladder becoming involved in the inflammatory process; the second is that in cases seen late or in which the infection is virulent the absorption of a large dose of toxin may so far narcotise the patient as to mask abdominal tenderness by dulling the sensibility of the patient. Indeed, abdominal tenderness may be almost completely masked even when no morphine has been given. These two symptoms are illustrated by a case I saw quite recently. A very stout little girl, three years of age, the child of a medical man, was taken ill suddenly with vomiting and considerable fever (103° F.). There was some abdominal pain but this had not been a marked feature. I saw her on the fourth day of the illness. Enteric fever had at first been thought of but this was early negatived by the course of the temperature. At the time of my visit the temperature was between 100° and 101° and had been down to normal. The child was lying placidly in bed with her legs fully extended. The most that could be made out was that there was some increased resistance on the right side of the lower abdomen though the abdominal wall moved with respiration. The tympanic membranes were normal and there was no optic neuritis. Two signs made it clear that the child had a grave acute illness: she had vomited at least once every day since the illness commenced and her pulse was persistently rapid—120 and over. She had also shown a tendency to faintness. It was a question for the moment whether the lesion was cranial or abdominal. Since the illness began she had had incontinence of urine and this confirmed the suspicion that the lesion was intra-abdominal. Operation was performed the same evening. As soon as she was anæsthetised a swelling could be felt in the right iliac fossa and per rectum. This proved to be an acute abscess, evidently of appendicular origin. The child is now doing well.

In another child suffering from vomiting and intestinal symptoms anæsthesia was indispensable for correct decision as to operation. I was sent for some ten years ago to a provincial town to operate on an only child, aged nine months, for intussusception. The child was under the care of a most skilful practitioner. Daily vomiting, fretfulness, a slight rise of temperature, and slime in the motions had been observed and a tumour was thought to be present in the right hypochondrium. I found the child asleep with the legs fully extended and so apathetic when awakened that acute abdominal mischief appeared improbable. Chloroform was given but as no tumour could be felt through the abdominal wall or per rectum no operation was performed. The parents were angry at this. The next day Sir Thomas Barlow saw the child but was unable to arrive at a definite diagnosis. Ten days later squint was observed and the child died shortly afterwards from tuberculous meningitis.

The third sign is determined by digital examination of the pelvis by rectum or vagina. This should never be omitted. There are many cases in which the inflammatory swelling can only be detected by such an examination. Recently I operated on a boy, aged 14 years, who had peritonitis from appendicitis. An inflammatory swelling in the recto-vesical pouch was felt through the rectum and the chief abdominal tenderness was in the left iliac fossa. At the operation an inflamed appendix was removed from the pelvis. The inflammation had ascended towards the left lumbar region, while the right iliac fossa had remained free.

In women the diagnosis between appendicitis and salpingitis is often doubtful before operation and the two conditions may coexist. When general peritonitis is already present operation must be quickly and thoroughly carried out. The steps of such an operation are as follows. A sufficient incision is made to enable the whole abdominal cavity from the pelvis to the hepatic and splenic regions to be flushed surgically clean with large quantities of warm normal saline solution. More than one incision may be required but a single long incision is usually preferable, as through it all the intestine may be taken out of the abdominal cavity while the parietes are thoroughly cleansed. Through this incision the appendix is removed. The small intestine, if distended, is incised and emptied, and one and a half or two ounces of magnesium sulphate in solution are injected into it. Lastly, drainage is provided for and the wound is rapidly sutured. Such an operation should as rarely be required for appendicitis as amputation at the shoulder for septic infection of the hand. The after-treatment requires the closest attention. Subcutaneous injection of strychnine and intravenous infusion of saline solution will often be required during or after the operation. The patient should be propped up in bed and maintained in the sitting position at an angle of about 45°. Thirst is assuaged by rectal injection of saline solution. Murphy says that water is not absorbed by the stomach and is therefore not to be given until the intestine has recovered its tone. The bowels are made to act by calomel and sulphate of magnesium.

The ideal treatment of general peritonitis is continuous irrigation or the continuous bath treatment so successfully employed in the acute suppurations of the joints, for example, the knee. I have twice endeavoured to carry out this treatment with baths of normal saline solution but both cases were unsuccessful. One was a case of duodenal ulcer which had perforated two days before operation; the other was a case where general peritonitis had occurred from a first attack of appendicitis; the operation was not performed till the seventh day. Both patients lived 48 hours. In one instance two hours of continuous sleep were obtained in the bath. In both the intestines were allowed to float out through the single long incision into the bath of saline solution. Sutures had been inserted and left ready to tie at the conclusion of the bath treatment. So rapidly did the purulent matter escape into the bath that several assistants were required to keep the bath water even approximately clean. At the necropsies the abdominal cavities were absolutely clean. This I have not seen after other methods of treatment of similar cases. It would probably be better after dealing with the local cause of the peritonitis rapidly to insert three or four drainage-tubes through reasonably small openings in various situations and then at once to commence the bath treatment. This would obviate manipulation of the intestine which causes so much shock.[18]

"Some few departments of human inquiry have still their depths and difficulties"[19] and the treatment of acute general peritonitis is clearly one of them. In the near future some

[18] Consult the Experimental Researches of Kinnaman, Annals of Surgery, December, 1903; and Crile, Blood Pressure in Surgery.

[19] Carlyle: Novalis.

more perfect form of antitoxin treatment may provide an unfailing remedy for such cases and at length realise the ideal remedy dreamed of by Paracelsus (circa 1500) "which should be antagonistic, not to the disease in a physical sense, but to the spiritual seed of the disease."[20] The conclusion, therefore, is that in acute abdominal cases, whether of injury or infection, prompt operation is the best guarantee of the safety of the patient. It is from an early and accurate appreciation of the significance of certain clinical signs and from a whole-hearted belief that certain clinical phenomena indubitably indicate the presence of definite pathological processes that the surgeon derives his imperative commission to carry out promptly the life-saving operation. "Who," says Carlyle[21]—and we may apply his words to ourselves in the presence of an acute abdominal case—"would go about inculcating Doubt unless he were far astray indeed and much at a loss for employment?"

ABSTRACT OF

A Lecture

ON

THE PROBLEMS OF CANCER.

Delivered to the class of Embryology in the University of Edinburgh on Oct. 18th, 1904,

BY J. BEARD, D.Sc. VICT.,

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GENTLEMEN,—The fundamental problem, the very basis of embryology, is the course of the life-cycle in the higher animals, including man. This question of the mode of the development far exceeds in import all other problems of pure embryology. It touches upon, without at present offering any explanation of, the nature of life itself. But while the latter is now beyond human grasp and may elude it for ever, the solution of the great problem of the life-cycle, seemingly so complex albeit so simple, furnishes results of overwhelming import for all the sciences of life. The history of embryology tells us how for centuries the fight, whether epigenesis or preformation, went on; how, on the one side, the development was regarded as analogous to the building of a house, "part being added to part"; and how, on the other, men like Haller denied any coming into being, the embryo being preformed in all its parts. So slow is real progress in a science like embryology and so greedily receptive of error is the human mind that in our day we hardly dare hope to see the last of the two rival erroneous doctrines of epigenesis and preformation. Like the chameleon of the story, "the creature's neither one nor t'other." Underlying the phenomena of development in the higher animals there are an antithetic alternation of asexual and sexual generations, a morphological continuity of germ cells from generation to generation—the Alpha and Omega of development—and an unfolding based in predestination. At the basis of all development lie the germ cells which, paraphrasing Robinson's eloquent words, go back to a beginning so remote as to be utterly beyond our knowledge and pass to a future of which we can form no conception whatever. Under the phenomena presented by the germ cells in their cycle direct development and epigenesis can find no places. Looked at in the light of the facts they are impossibilities and, like the recapitulation theory, merely illusions of the human imagination. An antithetic alternation is seen to be an iron necessity of the development as soon as it is perceived that an organism, an asexual one, must develop upon which germ cells can arise, while the sexual generation, "the embryo" of embryologists, is called forth from one of these germ cells to contain and to nourish the rest for a certain brief span of time. Moreover, the facts of development, which to some extent have been unearthed during the past 15 years within these walls, throw a flood of new light upon the crude materialism of modern embryological text-books. The biophores of Weismann and the pangens of de Vries become shadowy entities of the real existence of which there are no evidences. And while with humility admitting that to say it is to furnish no explanation of the riddle of life, it must be recognised that the characters or qualities of animals or plants are certainly not present in the germ in the shape of ultra-microscopic particles of chromatin, the pangens or biophores, but that all the wonderful and infinite variety of animate nature has its fount in unconscious memories of germ cells.

Modern embryology, not to be confused with that extant in text-books, claims as its own two vastly important regions of human knowledge. These are the facts and nature of heredity and genetic variation and that portion of pathology treating of the tumours or neoplasms, benign and malignant. The phenomena termed heredity are germinal in nature and in this way they fall within the province of the embryologist, not in that of the mathematician. But at first sight it is, perhaps, not so clear that neoplasms—living things possessing simple or complicated structures but devoid of any useful functions—should be entities about whose nature the embryologist need concern himself at all. As recently as four years ago but few of the higher teratomata were recognised as embryonic in nature. Now almost the other extreme has been reached and possibly there are few tumours, benign or malignant, the embryonic nature of which has not been advocated by some observer or other, usually a pathologist. By embryonic is meant that their tissues would be identical with, even according to some observers derived from, some of those making up an embryonic body, that they would be, in the word employed by Wilms, "embryomata." As to their origin—apart from the so-called "parasitic theories," which are more remarkable for the things they leave untouched than for the "facts" they explain, for benign or malignant tumours or for both—certain erroneous views, not really based in embryology, have within the last year been advocated at home and abroad. Malignant neoplasms, such as cancer, have been supposed to arise from somatic cells of the individual either with or without a conjugation of such. To my mind there is as little evidence—and that is none at all—to show that somatic cells could take on malignant characters as that cancer cells could, or do, conjugate with their fellows or with other cells such as leucocytes. Indeed, the appearances described and figured as conjugation in a cancer are capable of other and simple explanations. Certainly if they represent a real conjugation the preparations ought to carry conviction to the minds of embryologists and cytologists such as, to name three Würzburg ones, Stoehr, Schultze, and Sobotta. This is improbable, for the true nature of the preparations shown last July at Oxford appears to me to be fairly clear.

Very common among pathologists is a modification of Cohnheim's theory of embryonic rests as the basis of neoplasms. This doctrine of "shunted germs," only possible under the erroneous dogma of epigenesis, has many followers, especially in Germany. The apparent manifold variety of the malignant tumours, which fortunately is not real, led to the conclusion that they were made up of embryonic or somatic cells—that, for example, a primary cancer of the liver or kidney was composed of liver or kidney cells and so on. The embryological conclusions to be advanced in this room, and which are based on research, do not permit of that explanation. A malignant tumour is such in virtue of the facts, among others, that its cells are *not* embryonic (though they may mimic such, or even resemble no other cells in the human body), and that, like cells of the trophoblast or chorion of normal development, the neoplasm eats or erodes its way through other structures, even through bone. On the other hand, a benign tumour does consist solely of somatic or embryonic cells. Its tissues are normal in structure, for it is a true embryoma, or more or less rudimentary embryo, in Wilms's sense. A neoplasm is, in short, a futile attempt to repeat a greater or less portion of the cycle of normal development. A true embryoma recites merely some greater or less piece of the embryonic portion; a pure cancer or sarcoma, for these are one and the same thing under different disguises, may attempt to produce the whole life-cycle with the sole exception of the embryonic part. In an unmixed cancer or sarcoma there is absolutely nothing whatever of an embryo; there is not a vestige of a somatic cell.

To reinforce their attitude several supporters of the doctrine of shunted germs have invoked the aid of fertilised polar bodies. Every elementary student knows these and is aware that nowhere in the animal kingdom have

[20] Quoted from Dr. Payne's article in the Encyclopædia Britannica.
[21] Frederick the Great, Book iv., chapter xi.

they ever been known to exhibit any potentialities worthy of the least notice. To the embryologist versed in recent advances the theory of fertilised polar bodies, with its allied assumptions of all sorts of embryonic rests or germinal shunts, must seem to be one of the most absurd ideas ever enunciated in science. Like the somatic origin and the supposed "conjugation" this must be rejected. Fortunately or unfortunately, the number of polar bodies formed by the mammalian egg is far too limited to permit of their introduction into the question. No mammal is known in which more than one polar body arises, while, for example, Wilms found as many as five embryomata in one ovary, and Baart de la Faille[1] recorded a case of quadruplets where three of the fœtuses hung as more or less incomplete parasites from the palate of the fourth. On the present occasion a few words more must suffice regarding the manifold embryological aspects of neoplasms. They form—and this requires emphasis—only one set of many degenerative and retrogressive phenomena encountered at all sorts of stages of the cycle in comparative embryology. Truly, in dealing practically with embryology, "in the midst of life we are in death." "Das Werden" is ever accompanied by "das Vergehen."

The whole doctrine of the tumours centres in the problem of identical twins. Than these latter there is nothing more replete with interest in embryology. Of vast import is the recognition of the existence of two kinds of these. There are identical twins, which come as it were out of the same mould, and there is a second and rarer kind, the "looking-glass-image" twins. The occurrence of the latter throws welcome light upon various zoological and anatomical questions, on the right-handed and left-handed snails, fishes, &c., as well as upon the phenomena of reversed viscera. In other directions identical twins pass gradually into double monsters and these in their turn into the higher tumours or teratomata. At the basis of the tumours is the fact that from one fertilised egg a multiplicity of embryos may arise, just as from one such in a sea-polype a legion of jelly-fish may take their birth. As in the polar bodies of oögenesis we have rudimentary or abortive gametes, so in the development of the higher animals we meet with rudimentary or abortive germ cells, originally really destined to form embryos. In other words, in the history of the race there has been a reduction in the number of actual normal embryos arising, but with the persistence of such "embryonic" germ cells (embryonic in destiny) and the retention by these of more or less of the "memories" needed to unfold an individual of the species. As shown two years ago in THE LANCET,[2] a malignant tumour, and this is true of both cancer and sarcoma, is nothing more than an irresponsible trophoblast or chorion, the asexual generation, which in every normal development is the forerunner of an embryo. Though not recognised, or, at all events, not stated by them, the researches of Farmer, Moore, and Walker,[3] as well as those of Bashford and Murray,[4] have confirmed the truth of this view, and to the hilt. For it is an inalienable property of the trophoblast of normal development that upon it germ cells arise. Once these have come into existence, it is but a question of a certain limited number of cell-divisions before they present the phenomena associated by many embryologists with the reduction of chromosomes. In short, the proof furnished by the researches of Farmer, Moore, and Walker and confirmed by Bashford and Murray, of the occurrence of divisions in cancer and sarcoma cells usually associated with the maturation of germ cells, was the one thing lacking to establish beyond question the true nature of a malignant tumour as the pre-embryonic portion of the life-cycle, the asexual generation. While at present it would be wrong to assume that such cell divisions must of necessity occur at some time or other in all malignant tumours, for even a malignant tumour may conceivably be so reduced or retrograded as to be unable to repeat the whole cycle of the germ cells, just as no tumour is known to form actual sperms, it is now beyond doubt that the occurrence of such divisions in certain cases proves a malignant neoplasm to be the pre-embryonic portion of the life-cycle. It is a life-cycle with the embryo omitted. Germ cells never do arise and never could have arisen from somatic or embryonic cells or tissues.

The true science of the tumours, then, has its embryological basis in the facts and phenomena of identical twins, triplets, &c. The facts of normal development, as seen in identical twins as well as in certain armadillos, many sheep, &c., demand that we should recognise that just prior to the unfolding of an embryo there are "n" divisions of germ cells resulting usually in one embryonic cell and a certain as yet undefined number of retrograde or rudimentary embryonic cells. Like the polar bodies of oögenesis as rudimentary gametes, these have now lost to a greater or less degree, this varying in different cases, their powers of undergoing a completely normal development. They are not to be confused with those germ cells destined for the sexual organs of the individual. A malignant neoplasm, due to the spontaneous development of such a retrograde germ cell, which in the days of long ago would have given rise to an identical twin, has lost to a greater or less degree those potentialities, those unconscious memories, which would have permitted it to complete the full-life cycle of normal development, ending in the formation of a normal embryo. The memories which it retains condition the character of the tumour to which it will give rise and it is these rudimentary memories, stimulated by its environment in some particular organ, which result now in a sarcoma, now in a carcinoma, mimicking the structure in which it lies. This explains why in one development a certain germ cell will produce an identical twin, while the corresponding germ cell in another instance develops into a monster, or into an embryoma, or into such with a malignant tumour, or into a mixed and malignant neoplasm, or, lastly, into a simple sarcoma or carcinoma. All depends upon the amount of unconscious memory retained by those retrogressive germ cells, which formerly gave birth to normal embryos, identical twins, triplets, &c. Nay, one may safely take a further step in the like direction. Chorio-epithelioma, a deadly form of cancer in pregnancy, usually rises in instances where either no embryo has been formed (hydatid mole) or it has been aborted at the critical period[5] as a monstrosity. Is it at all unlikely that here, for some reason or other, either the wrong germ cell had developed or, at any rate, that such a one had early usurped the place of the developing one? This would be one the memories of which could but result in a malignant tumour—that is to say, one mimicking the structure of correct chorion. If this be true we have in chorio-epithelioma merely a form of cancer arising very early in the life of the individual and invading a new host, the unfortunate mother.

The things that we have been dealing with are startling enough and it may be asked, What steps are being taken to apply them in practice and to carry our embryological knowledge of the malignant neoplasms still further? Practically none. Except in the Universities of Edinburgh and Leeds[6] I am not aware that at the present time the embryological aspects of the malignant tumours (in the sense of my conceptions of that science as opposed to the utterly erroneous fairy-tales of the text-books) are receiving any particular attention. Abroad, for example, the leading investigators appear to be hopelessly at sea. In cancer research, momentous as it is for human welfare and hopes, there is far, far too much industrious but futile digging in cul-de-sacs. But there is a gleam of hope for the immediate future. Authorities connected with a great institution which is distinguished for its rapid and wonderful advances in scientific research have for some little time been considering and elaborating a scheme by which cancer research within its walls may be placed shortly under the direction of an able embryologist. If this be done the first important step in Great Britain will have been taken towards the proper recognition and independent establishment of a science of the utmost moment to mankind—the true science of life, embryology. In these conditions and given abundant material of the right sort we may hope to witness soon advances in our knowledge of the malignant neoplasms of which we can now form no conception and the vast importance of which it is impossible to gauge.

[1] Vide Schatz: Klinische Beiträge zur Physiologie des Fœtus, Archiv für Gynäkologie, 1900. The original paper by Baart de la Faille is said to be very rare. The specimen is described (p. 252) with some others by E. Schwalbe in Ziegler's Beiträge zur Pathologischen Anatomie, vol. xxxvi., 1904, pp. 242-72, Der Epignathus und seine Genese.

[2] THE LANCET, June 21st, 1902, p. 1758.

[3] Farmer, Moore, and Walker: Resemblances exhibited by the Cells of Malignant Growths in Man and those of Normal Reproductive Tissue, THE LANCET, Dec. 26th, 1903, p. 1830.

[4] The Zoological Distribution, the Limitations in the Transmissibility and the Comparative Histological and Cytological Characters of Malignant New Growths, Scientific Reports of the Imperial Cancer Research Fund, No. 1, London, 1904.

[5] For a full account of the "critical period" and its peculiarities see J. Beard, Certain Problems of Vertebrate Embryology, 1896, and The Span of Gestation and the Cause of Birth, 1897, both published by Gustav Fischer, Jena.

[6] By Professor A. S. F. Grünbaum, lately Director of the Liverpool Cancer Research.

THE WRECK OF THE *AUSTRALIA*.

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AND

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ON Feb. 1st, 1895, Mr. Bryce, President of the Board of Trade, received a deputation of ophthalmologists who urged that the vision of those employed in railway services and in the mercantile marine should be properly tested by skilled medical men. In the course of his reply[1] he said that "in order to show the practical urgency for further action it was necessary to prove that accidents were occurring owing to the defective application of vision tests. It was certainly very remarkable that so few or no accidents on sea or on land had been so far traceable to that cause." Shortly afterwards the disastrous collision between the *Elbe* and the *Crathie* took place and Mr. Bickerton wrote to the Board of Trade[2] whilst the inquiry was pending, suggesting the desirability of examining the eyesight and colour sense of such of the *Crathie's* crew as were on deck at the time of the casualty. He received the following reply:—

May 20th, 1895.

DEAR SIR,—I am directed by Mr. Bryce to acknowledge receipt of your letter of yesterday's date and to state in reply that the question of the powers of vision will be carefully borne in mind in the Board of Trade inquiry into the cause of the collision between the *Elbe* and the *Crathie*. Yours faithfully,

(Signed) G. ROPER.

The inquiry was duly held but as the question of defective eyesight was not mentioned in the full reports in the *Times* he again wrote to the Board, asking whether the look-outs had been examined or not. He received the following reply:—

June 26th, 1895.

SIR,—With reference to your letter of the 19th inst., asking whether the look-outs of the *Crathie* were examined as to their eyesight, and where you can obtain a copy of the evidence taken, I am directed by the Board of Trade to state that the witnesses were not examined as to their eyesight, and that the evidence of both sides showed that colour blindness had nothing to do with the cause of the collision.

I am, Sir, your obedient servant,

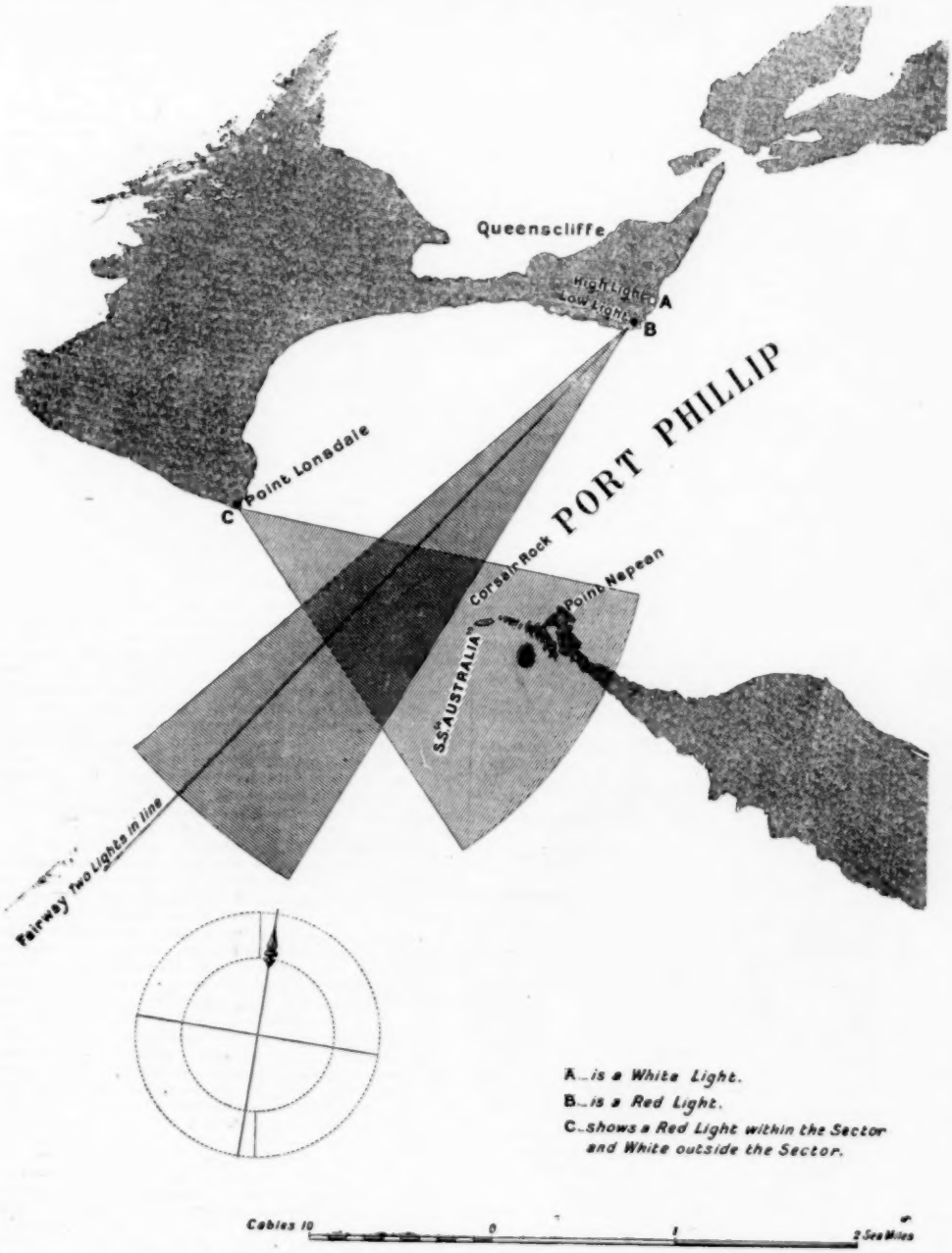
(Signed) INGRAM B. WALKER.

In Australia there had been similar agitations on the part of ophthalmologists who had for their object the enforcement of scientific methods of examination. The frequent informal reply has been that of Mr. Bryce: there is no evidence of accidents being caused by visual deficiency. Such evidence was, of course, not forthcoming, since those concerned in accidents were rarely, if ever, properly examined after accidents. The wreck of the P. and O. steamer *Australia* on the morning of June 20th, 1904, and the subsequent developments have furnished an instance which is not likely to be forgotten and which has already caused the examination in the pilot service of Victoria to be placed on a thoroughly scientific basis. The accompanying plan shows the nature of the service on which the pilot was engaged. The entrance to the port is a narrow channel through which a strong tide was flowing, probably six knots an hour. The *Australia* was boarded by the pilot about five miles from Queenscliffe. The pilot had to climb a rope ladder to get on board. He went to the bridge, drank a cup of coffee, and took charge. The *Australia* proceeded at full speed (about 14 knots) plus the tide. A reference to the plan will show that in entering the port the two Queenscliffe lights must be kept in line or nearly so. The upper and further light (A) is white; the lower and nearer (B) is red. The height of A is 130 feet, that of B is 90 feet, and the interval between the two is 352 yards. The lower red light is seen as red in the sector marked on the plan and if seen as white would indicate that the vessel was in danger, being outside the red sector. The Point Lonsdale occulting light (C) also illuminates a red sector and is seen white on either side of that sector. The usual practice in entering the port is to keep the Queenscliffe lights in line and to pass through the red sector of the Lonsdale light (C). As soon as this changes from red to white the vessel's head is turned to starboard and she proceeds up the channel of the harbour. The pilot stated that he was breathless from exertion, but took charge, and used his binoculars, at all events, at first. The night was moonless. It had been raining. It was blowing hard but the sea was calm. The tide was setting in strongly from the south-east and he ported his helm to open out the Queenscliffe lights a little from the east to allow for the current. In all, he seems to have given three orders to port. Shortly after the orders to port were given the steamer struck the Corsair rock, marked on the plan, and became a wreck, securely wedged on to the rock. The wreck occurred about 1.30 A.M., some 25 minutes after the pilot took the charge. The pilot in evidence subsequently stated that he recollected nothing after the first order to port and that the lights did not seem to him as clear as usual. The evidence was clear that he brought no alcohol with him on board, that he received none, and that he appeared quite sober up to the time of the accident. After the accident he collapsed and was removed from the ship in that condition. When he reached his home next day Dr. McLean, his medical adviser, examined him and subsequently saw him in consultation with Dr. D. Grant. He had been many years in the service and had never been re-examined. He is 59 years of age and was found to have an enlarged heart and evidence of arterio-sclerosis, the blood pressure registered by Martin's hæmo-dynamometer being 180 mm. Hg. His urine contained both albumin and glucose. He was also found to be obviously myopic and was referred to one of us (J. W. B.) for examination. Two days after the accident his eyes were examined by us, with the following result: Vision: right eye, $\frac{6}{36}$ partly; left eye, $\frac{6}{36}$ partly. The pupils responded to light and to accommodation and consensually. Under homatropine and cocaine they dilated well and the vision was: right, $\bar{c} \frac{-3 \cdot 5 \text{ D. Sph.}}{-0 \cdot 5 \text{ D. Cyl. Ax. } 18°} = \frac{6}{9}$; left, $\bar{c} \frac{-3 \text{ D. Sph.}}{-0 \cdot 5 \text{ D. Cyl. Ax. } 40°} = \frac{6}{6}$ partly. The fundi of the eyes were normal, with the exception that there were myopic crescents in the vicinity of both discs and that there was some evidence of arterial rigidity, as indicated by the compression of the veins where the arteries crossed them. The visual fields for white were normal. The colour vision tested by Holmgren's wools was normal but tested by luminous discs considerable illumination was required to elicit a satisfactory discrimination of some of the colours. The vision was tested for several days and varied, occasionally rising to $\frac{6}{24}$ right and left. His binoculars were left on the wreck so that it was impossible to ascertain whether they were faulty or not.

Before commenting on the foregoing it must be mentioned that the same pilot was in charge of the s.s. *Indraghiri* on March 10th, 1904, when she ran aground to the north-west of the entrance to the south channel. The night was dark but clear and the lights were visible. The pilot, however, failed to see the occulting light at No. 15 buoy. The pilot thought that the light was obscured by a flight of birds. At the inquiry after the wreck of the *Australia* he stated that he was not aware his vision was defective until he submitted himself for examination. He can read fine print (Cowell 1) excellently without glasses and consequently prided himself on the possession of good vision. The court found him guilty of careless navigation. His resignation was refused and his certificate was cancelled.

From the medical point of view several possible explanations offer themselves. He may have had a minute vascular change in the cortex of his cerebrum due to the exertion and arterio-sclerosis. This could not be excluded but there was no evidence in support of it except his own statement. No one else had noticed anything unusual. The defective form-vision necessarily caused him to see the lights as circles, unless he used accurately focussed binoculars. Whether they were out of order we cannot tell. The size of diffusion circles is given by the formula $x = p \frac{d}{d + a}$. Where x = diameter of diffusion, d = the distance of the distinct image from the retina, p = the diameter of the pupil and a = its distance from the retina. As his myopia was probably axial we know all the factors except p; if the diameter of his pupil was only four millimetres it will be

[1] Brit. Med. Jour., 1895, vol. i., p. 316.
[2] Ibid., 1895, vol. ii., p. 960.



ENTRANCE
TO
PORT PHILLIP.

found that the diffusion circles of the Queenscliffe light, regarded as points, situated nearly 12,000 feet away, would excite images which might well coalesce or touch when the lights were much out of line. If emmetropic people will render themselves artificially myopic, by using convex glasses and will place a coloured and white candle light in the proper position of the Queenscliffe lights they can readily appreciate the position in which the pilot was placed. At 12,000 feet his diffusion circles, one-fifth of a millimetre wide (approximately), would correspond to objects 160 feet in diameter (approximately). Furthermore, the coloured lights seen with these diffusion circles are much reduced in intensity, so that two visual questions arise: Did the pilot see that the lights were not in line and did he fail to see the red colour of either Lonsdale (C) or the lower Queenscliffe (B) light?

Reviewing the matter from the public standpoint it is obvious (1) that if there had been a proper system of entrance examination and re-examinations the accident would not have occurred; (2) that had the system of re-examination after an accident been in force the man's condition would have been at once discovered after the grounding of the *Indraghiri* and the disaster to the *Australia* would have been prevented; (3) that had the pilot not been examined medically after the accident to the *Australia* it is possible that defective vision would not have been thought to be responsible for either accident; and (4) it appears, therefore, that some of the accidents which Mr. Bryce did not think due to defective vision may have been, and probably were, due to that cause.

The following are the regulations adopted by the Marine Board of Victoria on the recommendation of Dr. Grant and Dr. Barrett for the visual requirements of those who propose to enter the pilot service:—

1. Vision to be $\frac{6}{6}$ in each eye without glasses.
2. The total error of refraction is not to exceed 1 D., and of this astigmatism is not to exceed 0·5 D. This estimate is to be made by retinoscopy with the eye under the influence of a mydriatic.
3. The pupillary reflexes are to be normal, the fundus to be free from di-ease, the visual fields to be normal, and the balance of the ocular muscles is to be normal. The candidate is to possess binocular vision.
4. Colour vision is to be normal, as tested by coloured wools and coloured discs.
5. If during the course of service the vision deteriorates the pilot must retire from the service. If the pension fund is at present insufficient to enable this to be done the contribution might be increased.
6. If the pilot should be concerned in any accident he should at once undergo re-examination.
7. The pilots are to be examined annually and must retire at 60 years of age.

A CLINICAL STUDY OF ACTINOMYCOSIS.

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THAT actinomycosis in man is more frequent than was formerly recognised is, I think, a generally accepted fact. The manner of its communication is somewhat obscure and instances of more than one case occurring in one family or in persons in contact with one another are not generally recognised; indeed the possibility of it being communicated by contact is frequently denied. I have had occasion to treat one well-marked case and have been able to detect the fungus in one other member of the same family; further, a third member exhibited suspicious symptoms which cleared up under prompt local treatment so quickly and so satisfactorily that I was unable to get any definite evidence of the disease, though what evidence there was quite justified the patient being treated as a suspect. In all three cases I have specimens from photomicrographs which I submit together with this article to the consideration of the profession in the hope that by so doing I may be able to throw some light on the early symptoms in this disease. This is a most important point for if we are enabled to demonstrate the malady in its very earliest stages we go a long way towards the cure of the disease. The published cases of actinomycosis are almost without exception records of the advanced conditions met with in this disease and are frequently hopeless from a therapeutic point of view. From a perusal of a number of records of cases one is forced to the opinion that once it has been thoroughly established in the body actinomycosis is invariably a fatal disease, especially when it affects any of the internal organs. Cases of superficial lesions cured after prolonged treatment are recorded. The close resemblances between this disease and some forms of tuberculosis are well known. This similarity is unfortunate from a therapeutic point of view because the one disease is frequently mistaken for the other, especially in the early stages when the differentiation is so important and when treatment is of such great value.

CASE 1.—The patient was a sparely-built girl, aged 18 years. With regard to her family history, on the paternal side it was good. The grandmother was alive and her grandfather died at the age of 70 years. On the maternal side the grandfather died, aged 44 years, from "bronchial trouble," and the grandmother died at 73 years of age. As to her previous history, the patient had had enlarged cervical glands when seven or eight years old; these were operated upon and healed in due course. She had whooping-cough and pneumonia in 1894. The present illness commenced in April, 1901. About that time she had a number of alveolar abscesses which were troublesome and difficult to heal. She had a congested throat lasting for some time, was generally weak, and was working hard at school. In June she went for a holiday to Perthshire where she improved, but in July she contracted a severe cold and had pain under the left shoulder. This apparently was pleuritic. The pain was severe and the temperature was high. This was followed by an improvement in her condition for a short time but there was a relapse with a rise of temperature. In August she was confined entirely to bed for three weeks and the temperature rose daily until about August 26th it touched 103·5 F.° in the evenings. There were some cough and diarrhœa and the patient lost weight. She was closely watched by a medical man who detected dulness of the apex of the left lung posteriorly. Under treatment she sufficiently improved by the end of August to be able to begin the open-air treatment and to take short walks, although the temperature still rose to 101° daily. This condition continued during all September and she returned to London early in October by short stages. She had gained six pounds in weight during the three months in Scotland, the weight, including clothing, being 5 stones 6 pounds. On the evening of her return she had a slight hæmoptysis, not for the first time, but previous attacks were mere sanguineous streaks on the sputum. At this stage of the illness I was called in. There was dulness at the base of the left lung, extending upwards for about three inches; there was comparative dulness at the left apex anteriorly; the breath sounds were defective at the base and bronchial at the apex. An abscess developed in the tender area of the back, extending from the apex of the lung to the spine of the scapula and the vertebral column in the middle line. The abscess was opened and drained. The pus was thick, tenacious, yellowish green in colour, and very offensive in odour. A slight improvement followed the opening of the abscess. Another and larger abscess then developed at the base of the left lung; there was considerable œdema of the tissues over it. Mr. Rickman J. Godlee saw the patient and suggested actinomycosis, with the result that his diagnosis was confirmed. The patient was immediately put on the potassium iodide treatment. The skin surrounding the openings of the abscesses became involved and after two months showed the following characteristic appearance. There were a number of small superficial abscesses which contained thick, yellowish pus, a discrete papular infiltration of the superficial layers of the skin occurring in irregular patches and increasing by peripheral extension; the skin between the patches had an œdematous appearance and was of a bluish colour; the abscesses discharged and filled up with flabby granulations which soon protruded beyond the level of the surrounding skin; this tissue consisted of two distinct parts—pale, flabby, unhealthy tissue with centres of necrosis which after a time were dislodged; the pus contained the characteristic fungus; soon an area of about a square foot became involved." The patient was now (January, 1902) well under the influence of potassium iodide and showed signs of improvement, her spirits improved, and she took food well and slept better than formerly. The temperature, however, continued to-

keep high and was not at this stage influenced by the treatment, although it was controlled with phenacetin in five-grain doses. Other abscesses made their appearance in the back. These were opened and drained. Later an abscess developed in the left supra-mammary region. It was opened and continued to discharge up to the

FIG. 1.

Actinomycosis, preparation from pus, × 1000.

termination of the case. A secondary abscess occurred in an axillary gland apparently by direct extension through the lymphatics. This abscess was particularly rich in the characteristic granular bodies. A large abscess appeared behind the sterno-mastoid muscle in the neck; it contained a large quantity of very offensive pus. This was the seventh abscess opened with the knife and without general anæsthesia, ethyl chloride being in each instance used for local freezing. Throughout the course of the case alveolar abscesses appeared in the mouth; the pus from one of these was examined and contained the organism. The abscess in the neck appeared to be an extension from the alveolar abscesses. Gradually the discharges from the abscesses ceased, the skin affection improved greatly, but the patient steadily became weaker. Towards the end fresh pleuritic affection became evident, some consolidation of lung tissue appeared, and the patient gradually sank from exhaustion five months after the detection of actinomycosis and 12 months after the first symptoms of illness.

CASE 2.—This patient was a brother of the above, 15 years of age, never a robust boy, and subject to periodic febrile attacks of short duration with severe headaches. Previously to his illness he had some trouble with defective teeth, alveolar abscesses, &c., which a dentist remedied. In October, 1902, he had an unusually sharp febrile attack which lasted for several days. Coryza was very troublesome and his voice was toneless and suggestive of adenoids. For several months previously to this attack he had been rather lethargic, easily tired and listless. He had not quite recovered from this attack before he had another and longer illness which was accompanied by cough and scanty expectoration. After a prolonged examination of the expectoration evidence was obtained which confirmed [the suspicion that he was developing actinomycosis; the most characteristic piece of the mycelium, which I show in the accompanying illustration, was obtained from the sputum but other less defined portions were obtained by two independent observers. The boy at this time complained of pains in the back and a well-defined swelling was observed on the left side of the spine over the angles of the lower ribs. It was soft, non-fluctuating, and varied in size from time to time. Later a second swelling appeared between the spine and the scapula but it disappeared after a time. Early in December the adenoids were removed and the iodide of potassium treatment was pushed. The following brief notes taken from time to time indicate the progress of the case. On Nov. 30th, 1902, treatment was commenced. Five-grain doses were given three times a day and were increased to ten grains the next day, but this caused nausea, so he returned to the five-grain doses for a few days. Physical examination showed a swelling at the back of the tenth rib on the left side, about two inches long by one inch broad, and rounded on the surface. There was no evidence of fluctuation. It disappeared on pressure to some extent and also on changing his position; it was more evident when he stood erect and it did not involve the skin. On Dec. 3rd the swelling diminished in size. There was pain on pressure. The patient was now taking eight grains of iodide, he felt brighter, and took more interest in things around; he ate well and drank a quart of milk daily. On the 6th his weight was 6 stones 4 pounds. The swelling was still visible and tender to pressure. On the 10th an operation was performed for removal of the adenoids. The patient took the anæsthetic badly and became very cyanosed. He bled moderately but made a good recovery from the anæsthetic. On the 11th the patient was greatly improved and breathed well. Up to Jan. 26th, 1903, he had been taking regularly from 15 to 20 grains of iodide three times a day; he had greatly improved in general health, had no cough and no expectoration, was much brighter in spirits and was gaining weight. The swelling was still visible in the back. Potassium iodide was continued in varying doses throughout the early part of the year. On March 4th the patient was greatly improved and had grown considerably. He slept well, ate well, and was very bright. He was still taking iodide. The swelling was still evident in the back. In November improvement was maintained. He had taken the iodide regularly for nearly a year. He was now quite strong, had grown and gained in weight, and was brighter in spirits. The swelling in the back was still evident.

The chief points for consideration in this case are as follows. 1. The premonitory symptoms—a period of depressed vitality during which the patient was lethargic and easily fatigued. The temperature remained normal except during the febrile attacks; the pulse was persistently increased in frequency. 2. The febrile attacks and the subsequent development of "congested throat," with later the bronchial catarrh and expectoration. 3. The discovery of the mycelium in the sputum, operation for the removal of adenoids, and the commencement of treatment which was

FIG. 2.

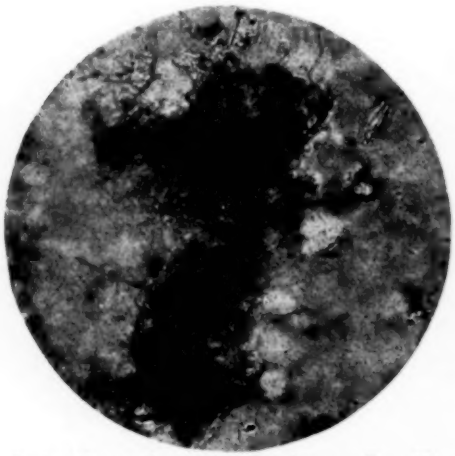
Specimen from sputum, magnified about 800 diameters, showing mycelium with spores and clubs.

continued for over a year. 4. The marked improvement in the general condition of the boy, increase in the weight, brightness of the spirits, &c. His weight in April, 1904, was 8 stones 5 pounds—an increase of two stones since Dec. 6th, 1902.

CASE 3.—The patient was an elder brother of the above, aged 17 years. He had been subject to colds in the head for several years. He was a tall, overgrown boy. In November he developed an abscess in the neck which discharged for some days and then healed up. He had

adenoids of considerable size which interfered with his breathing. His teeth were faulty; he had pyorrhœa alveolaris. A lower molar was extracted and had a saccular abscess at its roots; the abscess in the neck corresponded to a gland arising from this tooth. Pus from the tooth abscess and the one in the neck was examined and a photograph was obtained which is here reproduced. The

FIG. 3.



Specimen from pus from tooth abscess, shows mycelium with spores, magnified about 800 diameters.

other faulty teeth were all attended to. The adenoids were removed under an anæsthetic and the patient made a good recovery. He was kept on syrup of iodide of iron for a short time.

The consideration of the subject of actinomycosis in its relation to human beings is a wide one and involves a considerable amount of investigation along definite lines but it is not my intention to treat the subject generally at present; I shall confine my attention to an analysis of the points of similarity in the three cases quoted above. The first point is the fact that all three patients had been in the habit of spending a good many weeks in the country—a farm in Perthshire had been visited for several years in succession. The farmer during their last visit was seriously ill with a slow form of consumption from which he ultimately died. Cattle in the district had died from anthrax or some similar malady. The first patient developed her serious symptoms at the farm; she had an attack of pleurisy with high temperature, though it must be noted that her very early symptoms were diagnosed in London and she was sent to Scotland to recruit and, if possible, to avert a breakdown in health. She had visited the farm the year before and appeared to be in her usual health. The two boys had adenoids for years and it is quite likely that the girl may have had them also earlier in life. All these patients had had trouble with their teeth. The girl had glandular trouble with abscesses early in life, the second boy had also some glandular trouble, and the elder boy had a definite glandular abscess while under my care. They had all suffered from colds in the head and congested throats at variable periods. At this point I may dismiss the elder boy from the discussion; he improved after his operation and has developed into a strong, vigorous youth. The other two patients exhibited symptoms of a marked type—namely, repeated febrile attacks, congested throats, rapid pulse, lethargy, emaciation, progressive anæmia, and swellings in the back. In the case of the girl several of these swellings developed to abscesses which contained the characteristic fungus. Fortunately, in the boy they have not proceeded to the stage of breaking down. Both patients responded to the potassium iodide in a similar manner, their spirits improved vastly, and both expressed themselves as feeling much better. They partook of large doses for a prolonged period of time and neither of them exhibited any marked symptoms of depression.

From a consideration of a large number of recorded cases one comes to the conclusion that in all probability a large percentage of cases are infected in the first instance through the alimentary system. Several cases have been recorded where the primary infection was found to have taken place through the teeth or mucous membrane of the mouth. In cattle the disease almost invariably begins in or near the jaws. In Case 1 of my records the patient was known to have had trouble with her teeth and late in the progress of the case the fungus was found in the discharge from an alveolar abscess. Case 2 also had trouble with his teeth. Glandular complications had existed in all three patients. Taking all these facts into consideration one would be inclined to say that nearly all cases begin in or near the mouth and that once the alimentary tract becomes affected extension may take place through the blood or lymph stream to any part of the body.

A frequent complication appears to take place in the pharynx as instanced by the congested throat. It is therefore easy to see how the extension of the disease may occur either by way of the trachea and bronchi to lung substance and pleura or by descending to the stomach an infection of the alimentary canal may take place. Taking into account this fact one can easily understand how difficult it may be to distinguish, in the early stages at least, between this disease and tuberculosis in some of its many varieties. The early symptoms are practically identical—namely, languor, anæmia, and rapid pulse; if the trachea or bronchi are affected in actinomycosis there is cough of an irritative type, and emaciation comes on later in both diseases, though I am inclined to think it is earlier in tuberculosis. The important point, and I think a useful one, is the question of temperature. In actinomycosis an evening rise is not common unless the disease is accompanied by suppurative changes which I should be inclined to classify amongst the later and more distinctive symptoms. Actinomycosis of the lung may go on for a long period of time with practically no rise of temperature and no very definite symptom except slight cough and expectoration. In the later stages of the disease the temperature exhibits a rise in the evening with a fall next morning which does not get down to normal; it is more sustained and varies more than that of tuberculosis according to the amount of pus formation which may be going on.

A suspicious symptom in any doubtful case is the appearance of swellings on any part of the body, especially if they appear on the back—and swellings are generally the forerunners of abscess. An early examination of expectoration or pus is the only certain method of diagnosis and the presence of the typical mycelium or clubs at once establishes the diagnosis. To be of any use therapeutically one must make an early diagnosis and it is on this point that I would urge thorough examination of sputum by an expert in any doubtful case which does not respond to treatment.

An early diagnosis in actinomycosis can only be made by the aid of the microscope; suspicious symptoms should always lead us to examine sputum, pus, &c., carefully and repeatedly for evidence of the fungus. The specimens should be examined by Gram's method when the characteristic mycelium will generally be readily recognised; the typical arrangement of clubs is not usually present. In none of the specimens I have examined have I been able to recognise the text-book description of the fungus. The mycelium is usually present in more or less abundance and spores can often be made out with the high powers. In all the examinations I have made a search for tubercle bacilli has been made with invariably a negative result. The microphotographs given illustrate the typical appearance of pus and sputum when the mycelium of actinomycosis is present. In an early case it is very difficult to get a large piece of mycelium and one has to make repeated examinations before a definite conclusion can be arrived at. Cultures from specimens are difficult to get and Professor Baracz of Lemberg says "they are unnecessary, often impossible to get, and many cases would be unrecognised if they were depended on."

With regard to treatment, surgical measures if the lesion is superficial should be at once adopted. Free excision where possible of the affected part is the most rational and effective treatment; frequently, however, it is only possible to make a partial removal and then one must combine medical and surgical treatment. Iodide of potassium appears to be a specific in early cases at least. The remedy must be pushed rapidly to its extreme limit of dosage and it would appear that patients suffering from actinomycosis are very tolerant to the drug, as huge doses may be kept up

for months at a time without producing any symptoms of iodism. The two cases I have treated tolerated the drug well. The first case in five months took 16,320 grains, or an average of 103 grains daily, without exhibiting any undue symptoms; indeed, the patient appeared to improve while taking the iodide and expressed herself as feeling much brighter than formerly. She missed the drug when it was omitted. The second patient took for over 14 months an average of 40 grains per day and improved from the commencement of its administration. He has developed bone and weight and is now a strong, healthy youth.

Jackson's-lane, N.

DENTAL DISEASE AND THE MEDICAL PROFESSION.

BY R. DENISON PEDLEY, F.R.C.S. EDIN., L.D.S.

THE object of this paper is to direct attention to certain facts which are well worthy of consideration by medical men. It has long been evident that dental diseases are widely prevalent among all classes of the community. Their effects are far-reaching—from infancy to old age—not so much in destroying life as in marring it. By interfering with nutrition, poisoning the system, and generally lowering the vitality of the body they pave the way to many other diseases. Truly an important factor in physical deterioration. If this be true—and few will gainsay it—it is a matter of sufficient importance for the medical profession as a whole to take an active interest in supporting remedial and preventive measures as they have done in the past and are doing to-day for other diseases. Excluding, of necessity, the dental specialist and a few enlightened physicians and surgeons, the attitude of the medical profession toward dental diseases in their midst has hitherto been one of indifference. Why should this be? The answer is simple. Medical practitioners, as a rule, know very little about dental diseases. How should they? Let us take London as typical of what prevails throughout the United Kingdom. In most of the hospitals where medical students receive their training one or more dental surgeons are appointed. As a rule, a course of lectures on dental surgery is delivered either in the summer or the winter sessions and demonstrations are given in the dental department. To either of these medical students may attend or not as they please. The subject is optional. It is true that in the out-patient department the student will often have the opportunity of extracting an aching tooth or one which is causing an alveolar abscess, but he does not know that an examination of the mouth with mirror and probe will reveal defective teeth which on casual inspection escape observation, nor is he aware of the fact that pain is but one symptom of dental disease and that not the most important. Though half the patients he attends to—at a low estimate—will have carious teeth, seldom is it pointed out that necrotic roots must no more be permitted than necrotic bone in any other part of the body. Not often will it be insisted that septic material from the teeth and the tissues which surround them is spoiling the patient's digestion and may lead to infection of glands or of the blood itself.

When the student enters the wards he has been taught to make a careful examination of the patient's body. The condition of the various organs and the symptoms observed are all carefully entered in the clinical notes. The condition of the patient's mouth and the number of carious teeth are generally ignored, unless the patient is suffering from pain or swelling, and this notwithstanding the fact that more than half the patients will be affected with oral sepsis in one form or another. If it be a children's ward, four-fifths of the patients will have carious teeth. Walk round the wards of the hospitals with the physicians and surgeons, and how many will ask their clerks or dressers, their house physicians or house surgeons, whether a patient's mouth has been examined, and if not the reason why? How many will insist that the patient's mouth must in every case be carefully examined and a note made of the condition of the teeth and the mucous membrane around them? Without a healthy mouth the patient can scarcely have a healthy body. There are exceptions, but as a rule the subject is ignored. Yet it will be admitted that apart from any special treatment, such as an operation or the administration of certain drugs, the surgeon and the physician are alike in that they rely for the recovery of the patient upon careful nursing, perfect cleanliness, fresh air, nutritious food, and the removal of all sources of irritation. The purest air will be tainted when it passes through a mouth loaded with pathogenic bacteria. Every carious tooth is a cup containing its quantum of septic material which when churned up in mastication will taint the most nutritious food, and defective teeth are thus a constant source of irritation.

Step into the ideal operating theatre, with its germ-proof walls and floor. The nurses are spotlessly clean. The surgeon, the assistants, and the anæsthetist are all clad in aseptic garments, with caps to match. The hands of the operator and his assistants are carefully cleansed and are often clad in rubber gloves. Every instrument is sterilised; every dressing is rendered aseptic. That part of the patient's body to be operated upon is scrupulously cleansed, but among that small group around the patient it would be difficult to find one sterilised mouth.

Turn to the text-books on medicine and surgery, examine them carefully, and seldom will you find any reference to carious teeth or oral sepsis as an important factor in the production of disease. Neither in one nor the other is mention made of the fact that an examination of the patient's teeth is a matter of urgent necessity. Of course there are books where the dental surgeon has written a special chapter, but it will not have the weight or authority to the medical student as if written by the physician or surgeon himself. If you ask a medical student why he does not attend the dental department, or read a special text-book on dental surgery, or attend a course of lectures on dental surgery, he will tell you frankly that he is not going in for dentistry. Most of the students trained in the London hospitals take the Membership of the Royal College of Surgeons of England and the Licentiateship of the Royal College of Physicians of London. Many later take the higher qualifications of Fellow or Member of these colleges respectively. A large number pass through the portals of the University of London and take the qualifications of Bachelor of Medicine and Bachelor of Surgery, and, finally, Doctor of Medicine and Master of Surgery. So thorough are these examinations that the students of one hospital are examined by the teachers of other hospitals, never by their own. Look carefully over the papers set for the final examinations in any or all of these diplomas during the past *ten years*: and *you will not find a single question upon dental caries*. In the papers for the Membership of the Royal College of Surgeons of England there is occasionally a question on the symptoms, treatment, and diagnosis of abscess of the antrum. In the papers for the Licentiateship of the Royal College of Physicians of London there is occasionally one on facial neuralgia. In the papers for the Fellowship of the Royal College of Surgeons of 1897 there is one question on submaxillary cellulitis—angina Ludovici. In the papers for the B.S. of the University of London in 1900 there is one question on necrosis of the jaw; in 1896 there is one on abscess of the antrum. In the surgery papers of the M.B. in 1894 one purely dental question is to be found on the origin, symptoms, diagnosis, and treatment of follicular odontome or dentigerous cyst.

The reply to these statements by the physician and surgeon is readily given. "The medical student is overburdened already. Would you have us add another subject and thus increase his burden?" Such an answer would be incontrovertible if it were desired that the medical student should have a training in dental surgery and all that this involves. The whole object of his training is for the cure and prevention of disease. Who deplores the ignorance of the lay public upon questions of health more than the medical profession? Is it not then an anomaly that hundreds of young practitioners should emerge from their medical training every year in ignorance of the most prevalent of all diseases? You cannot blame them, they are devoted to their teachers while in the hospitals. To them they look for guidance and inspiration. Where the teachers lead the students will follow and what the teachers ignore the students are apt to ignore also.

Space will not permit of more than a passing allusion to the effects of this upon the medical profession and through them upon the public. Much of the dental disease is due to the defective diet of the children, pre-natal and post-natal. Yet there is scarcely an artificial food upon the market which does not receive abundant recommendation from

medical men. The medical practitioner is the confidential adviser of the mother and her offspring. The dental surgeon is helpless to prevent mischief. Only when the mischief is done is the patient handed over to him. Ten years have passed away since the British Dental Association published statistics which proved that 85 per cent. of the school-children in the United Kingdom have defective teeth. When will the medical profession of this country help them to find a remedy? Our continental brethren have since examined their own children and find the same defects. In Germany already remedial measures are being taken. More than ten years ago the British Dental Association placed before the medical profession facts to prove that our soldiers' and sailors' teeth required urgent attention. Yet it needed the rejection from active service and the return home of 3000 men from defective teeth alone during the late war before dental surgeons were appointed to remedy such defects in the army. The men of our navy—the finest service in the world—are in a worse plight than the army—nothing but the removal of teeth by way of treatment. Surely this is sufficient evidence of the indifference of the medical profession to dental diseases. It cannot long continue; there are forces outside the medical profession which are making themselves felt and the greatest among them will be the opinion of the public. The remedy is as simple as the effects will be far reaching. In all final examinations throughout the kingdom let it be known that in future an occasional question will be put on the causation, effects, and treatment of dental caries. In ten years' time the 13,000 general practitioners who have registered will be well aware of the prevalence of dental disease, which, if they cannot cure, they will do much to prevent. Such a question will be no great burden and I confidently appeal to the examiners on behalf of the British public.

Railway Approach, London Bridge, S.E.

A CASE OF ULCERATIVE COLITIS WITH MULTIPLE PERFORATIONS.

BY A. GARRICK WILSON, B.A., M.B. CANTAB., F.R.C.S. ENG.,

LATE SURGICAL REGISTRAR AT ST. MARY'S HOSPITAL, LONDON.

HAVING seen in a recent number of THE LANCET[1] some cases of ulcerative colitis I consequently thought it worth while to put on record a case which I had under my care a short time ago. The following are the notes. The patient, a male, aged 51 years, was seen for abdominal pain and diarrhœa. He had been fairly healthy until two years ago when he began to have intermittent diarrhœa with abdominal pain and occasional attacks of vomiting. A year ago he lost his wife and this being followed by other family troubles made him very depressed and from this time the symptoms had been worse. He had been losing flesh rapidly for the last two years. He was not very clear as to the condition of the bowels previous to the onset of these symptoms, but as far as he could remember he was generally constipated and had occasional attacks of diarrhœa. He had never been out of Yorkshire. He had been accustomed to take only a small quantity of alcohol daily. He had never had syphilis and there were no signs of the disease. He was in a state of marked mental depression, was extremely anæmic (the red cells were 3,000,000 per cubic millimetre), very much wasted, and his face was sallow and drawn as if in constant pain. The pulse was 100 and very feeble. The tongue was dry, brown, and furred. His appetite was very poor, and only with difficulty could he be induced to take small quantities of milk, custard, arrowroot, cocoa, and eggs. The temperature was always subnormal, varying from 97° to 98° F.

The patient complained of constant and severe pain in the lower part of the abdomen. This pain he described as passing round to the sacrum. Later in the course of the illness he also had pain in the epigastric region. Marked tenderness on pressure was present in the right and left iliac fossæ, but it was much worse on the left side. The abdomen felt doughy; it was not distended at first but just before death it became very much distended. There were no typhoid spots. On examination of the rectum a few internal piles were felt, while higher up the rectal wall was felt to be covered with numerous deep ulcers, between which the remaining mucous membrane seemed to project in a polypoidal manner. The rectal wall felt generally thickened and quite stiff. No mass of growth could be felt either in the abdomen or per rectum.

The motions were very frequent at first. On an average there were about ten daily but under treatment I was able to reduce these to five a day. They were passed without pain or straining and often into the bed without the knowledge of the patient, as although there was no apparent loss of power of the sphincter, yet he had no control over defecation. The motions were small, always liquid, dark in colour, and very foul; there were only a few small pellets of fæcal matter and no pellets of mucus, nor was there much mucus present, the motion consisting almost entirely of dark blood intimately mixed with it. There was no pus present. The urine had a specific gravity of 1010. There was no albumin or sugar. Widal's reaction was negative. Examination of the fæces for organisms showed the bacillus coli communis and some other large bacteria.

Salol was given in ten-grain doses three times a day as an internal antiseptic and to some extent it controlled the foul smell of the motions. Hamamelis and other internal astringents were also tried. Opium was given in various forms with large doses of carbonate of bismuth and later strychnine by the mouth and hypodermically. Brandy also was given in large doses. An enema of one pint of warm water with one drachm of tincture of opium was given twice a day from a douche can followed by an enema of ten grains of nitrate of silver to half a pint of warm water. The enema was given with a long soft rectal tube with the patient lying on his back, as he was not strong enough to remain in the knee-elbow position for long. It did not as a rule cause much pain, but it was not retained more than a few minutes. Unfortunately, it seemed to produce a feeling of sickness and as vomiting became severe and continuous the enemata were discontinued on the ninth day. Two days later the plain water enema was again given until two days before death as it caused a reduction in the daily number of motions. It is to be regretted that the enemata of nitrate of silver had to be discontinued as they certainly did good. A right-sided colotomy was suggested when I first saw the patient but he seemed too weak to stand it.

The patient gradually got weaker and unable to take any form of nourishment. On the day preceding death the abdominal pain increased and the abdomen became enormously distended and tympanitic. Death came very suddenly 15 days after I first saw the patient.

A post-mortem examination was made on the day after death. The body was extremely emaciated. On opening the chest the lungs were found very much adherent on both sides and the pleura was greatly thickened; there were signs of old tuberculosis at both apices. The heart was small and the muscle flabby. On opening the peritoneal cavity a large amount of liquid fæcal matter escaped from the regions of the pelvis and flanks and along the line of the transverse colon. On washing this away it was found to be escaping from a large number, about ten or more small perforations in the large intestine. The large intestine was everywhere adherent to the omentum and other structures. It was much shrunk in size and there was a good deal of fat adherent to it along the lines of the longitudinal bands. Between the longitudinal bands the intestinal wall was very thin indeed and appeared to consist of very little but the serous membrane. The colon was very friable and tore in several places on attempting removal. On opening the bowel and washing it free from blood and mucus it was found that the mucous surface presented very numerous serpiginous ulcers: in fact, there was very little mucous membrane and it appeared as islets among the ulcers. These islets of mucous membrane were swollen and congested and were studded with small pedunculated papillomatous growths. There were comparatively few ulcers in the cæcum and ascending colon but they increased in number as one followed the large bowel downwards and were very numerous in the rectum, the walls of which were in addition much thickened and infiltrated. The ulcers had undermined edges, they were rarely circular, but seemed to run together. They appeared deeper than they really were owing to the thickened œdematous condition of the remaining mucous membrane. The base of the ulcer was generally

[1] THE LANCET, March 12th, 1904, p. 721.

formed of the muscular coat of the bowel, but in some places that seemed to have disappeared and only the peritoneal coat remained. There was no thickening of the peritoneal coat over the ulcers but there were numerous adhesions, especially along the line of the muscular bands. There were no sloughs adherent to the base of the ulcers. The rest of the abdominal organs, with the exception of the kidneys which showed marked signs of chronic granular nephritis, appeared to be healthy. The mesenteric glands were not enlarged. A microscopical section of the bowel showed marked polypoidal changes in the mucous membrane between areas where it was entirely deficient, so that several observers thought that it was a specimen of the colitis polyposa of chronic dysentery.

It is to be regretted that this case ended fatally, but I expected that result from the very first. Emaciation had gone too far and the general weakness was so marked that the patient did not react to treatment. Anyone who had seen the condition of the colon after death would, I think, have agreed with me that recovery was impossible. The symptoms were of long duration and the condition of the mucous membrane gave the impression that the disease was of old standing. I believe that it was a typical case of simple ulcerative colitis; the signs during life and the post-mortem appearances all pointed to that diagnosis. The stools were characteristic, but there seems to have been rather more blood passed than was usual and this would account for the rapid asthenia, and as an evidence also of ulcerative activity it would account for the remarkably numerous and sudden perforations. Sudden perforations are apt to occur in this disease, although I have only been able to come across one recorded case of its occurrence. I suspected that the enemata had something to do with the perforation but no enema had been given for the two days preceding death.

Vomiting was not a marked feature of the case. It was most likely reflex from the ulcerated condition of the colon, but probably the enemata increased it; anyhow this was the opinion of the patient and it was at his wish that they were discontinued. In a recent case I see it put on record that part of the contents of an enema were vomited, when given in the treatment of a case of this nature; although I saw nothing like this yet the enemata certainly seemed to increase the vomiting. The absence of any rise of temperature would be accounted for by the extreme state of prostration and the chronicity of the disease.

The case was not one of typhoid fever as there were none of the typical diagnostic signs present. Dysentery was not the cause of the symptoms as the stools were not like those of dysentery, although at the post-mortem examination the ulceration of the colon resembled to some extent the condition found in chronic dysentery. Also the patient had never been out of Yorkshire and had never, therefore, been in a position to contract that disease. The diagnosis from follicular ulceration of the colon is more difficult. The ulcers were too irregular in shape and size for only the solitary follicles to be involved and differed from the small circular ulcers with sharply cut edges met with in follicular ulceration. The Peyer's patches of the small intestine were quite normal; also there were no pellets of mucus present in the fæces as in follicular ulceration. The character of the ulcers exactly agreed with the description given in Hale White's cases. Thus he says, in speaking of follicular ulceration: "It will be noticed that this (i.e., follicular ulceration) is very different from the undermining ulcers exposing the muscular fibre and running together, leaving islets of polypoid mucous membrane which are so characteristic of simple ulcerative colitis."

These isolated cases are remarkable and make the question of causation very difficult. If they were infectious we ought to hear of cases occurring in epidemics.

There was nothing in the occupation or place of residence of the man to suggest a cause nor am I able to discover that they have any influence on causation. Chronic mercurialism gives rise to a condition of the colon very like ulcerative colitis but I am convinced that this case was not one of that nature. It is unfortunate that examination of the fæces is difficult and the results are unsatisfactory; in my examination of this case I was only able to find the bacillus coli communis and some other large bacteria.

Chronic granular kidney was present in this case and seems to be a fairly frequent concomitant. What is the relation between the two diseases I do not know, but I think it is a point to be taken notice of and looked for in future cases. The presence of old tuberculosis I do not think of any account as the disease was practically cured. The condition of the bowel bore no resemblance to tuberculous ulceration. The man's condition on admission was such that I was unable to get any very clear history as to the state of his bowels preceding the illness. So far as he could remember he had suffered from constipation alternating with diarrhœa for a great many years. It seems therefore quite possible that at this time a catarrhal process was set up by irritant fæcal matter such as one sees in cases of fæcal impaction and that this, owing to lack of treatment, progressed to ulceration, so that finally the awful condition in which I first saw him was reached.

Treatment I do not regard as very satisfactory. I believe the death-rate is as high as 50 per cent. Various astringents were administered by the mouth but they seemed to have very little influence on the bleeding or diarrhœa and this appears to be the general rule in these cases. Enemata certainly did good in checking the diarrhœa and hæmorrhage and I think it will be enemata on which one must rely for treatment.

The use of solutions of nitrate of silver for this disease is not new and I believe that its use is certainly beneficial, as it is in so many catarrhal affections of other parts, and I anticipate that by the use of solutions of nitrate of silver or allied salt one will succeed in curing, or at any rate alleviating, some of these cases. Lately a solution of argyrol has been used with success.

When the patient is strong enough to bear the operation I believe that a right-sided colotomy, objectionable as it certainly is in itself, may, by preventing the passage of fæcal matter over the ulcerated colon and enabling treatment to be directed to the whole length of the colon, give cases a better chance of recovery, as it must be almost impossible to reach the whole length of the colon with an ordinary enema, although in some cases, especially the mild ones, where the disease is generally localised to the lower half of the colon, one ought to be able to carry out treatment by means of enemata. One or two successful cases of treatment by operation have been published and I think it should be tried more frequently.

Sheffield.

A CASE OF FIBROMYOMA OF THE FUNDUS WITH CARCINOMA OF THE CERVIX UTERI.

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OBSTETRIC PHYSICIAN TO KING'S COLLEGE HOSPITAL AND LECTURER ON PRACTICAL OBSTETRICS IN KING'S COLLEGE.

THE patient, a single woman, aged 49 years, was first seen on May 27th, 1901, with Mr. G. L. Atkinson of Hampton, for severe menorrhagia. A large retroverted uterus with a fibroid of the size of a clenched fist in its posterior wall was found impacted below the promontory of the sacrum. Under an anæsthetic this was pushed out of the pelvis and a ring pessary was inserted; it was noted at the time that the cervix was small and healthy. Six months later (on Nov. 28th) the hæmorrhages were still severe and some small cervical polypi of the size of currants were noticed projecting from the external os uteri. These were twisted off with forceps. The pathological report was "that the polypus presents a microscopic appearance which cannot be said to be definitely malignant, but is extremely suspicious." The patient was readmitted to hospital on April 8th, 1902, with the hæmorrhages much worse, the fibroid twice its former size, and her hæmoglobin percentage below 40. Scrapings from the cervix resulted in a negative report as to malignancy and abdominal hysterectomy was performed a month later. At the operation the question of performing a panhysterectomy was discussed but her condition was so grave during the operation that the idea of it was abandoned. She made a perfectly normal recovery and there was no hæmorrhage for four months. Then a slightly blood-stained discharge occasionally appeared until October, 1902, when she had a sharp flooding. Examination showed the cervix to be healthy to inspection but somewhat bulky in size. Her general condition was much improved and she declined further interference. In January, 1903,

she had another severe flooding and on examination, although the vaginal cervix was covered by healthy mucous membrane, it was more bulky. The index finger, after a little pressure, could be pushed through the external os uteri into a slightly dilated cavity; a small softish growth of the size of a filbert could be felt high up on the left and anterior wall. On Feb. 17th this was removed by means of polypus forceps. The report of the pathologist was as follows: "The tumour is a columnar-celled carcinoma; simple adenomatous material is also present: there are numerous hæmorrhages into the structure of the tumour."

On March 1st, with the patient in the lithotomy position, I extirpated the cervix by the vagina. It was necessary to make free liberating incisions at the vulva in order to give room for the necessary manipulations. The bladder was carefully separated from the anterior surface of the stump and the finger was introduced into the peritoneal cavity. A piece of small intestine was found closely adherent to the apex of the stump. This was carefully dissected off and the mass was removed. The operation was long and tedious and many bleeding vessels required ligature but her condition at its termination was satisfactory. The edges of the peritoneal opening were brought together by sutures, except in the centre, through which a small gauze drain was inserted. On incising longitudinally the anterior wall of the stump the conditions were found to be as follows. The cervical cavity was dilated to the size of a hazel nut but its walls were thick and apparently uninfiltrated. Projecting from the left and anterior surface near the internal os uteri was seen a small sloughing nodule, of the size of a bean, attached by a broad base. The contents of the cavity were grumous, brownish in colour, and fœtid.

I much regret now that I did not persist in my original idea of performing a panhysterectomy but the patient's condition at the time was such that every minute was of importance, she being quite pulseless and scarcely breathing on leaving the operating room, and nearly a week elapsed before her pulse descended below 100. The polypi removed at the first operation were obviously instances of tumours in a "pre-cancerous" stage, if I may so term it, and, although at a subsequent examination no evidence of malignancy could be made out in the scrapings, still I should not hesitate should I meet with a similar case to risk the more serious operation of panhysterectomy. The patient has since reported herself (18 months after the last operation) and examination indicated no signs of recurrence.

This case shows many points of interest. The most important is the deceptive condition of the cervix on its external aspect. This remained quite healthy up to the day of operation and, except for general hypertrophy, no one would have been led to suspect the nature of the disease going on in its cavity. The microscopical examination was not satisfactory in spite of many slides being examined and although the possibility of malignant disease existed all through there was never sufficient evidence to subject the patient to a grave operation.

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THE PROBLEM OF THE MORALLY DEFECTIVE.[1]

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THIS problem is inseparably connected with that of the feeble-minded. When I say that feebleness of mind, weakness of morals, and a poor standard of physical health go hand-in-hand I am but expressing a truism. There are some—not in such an audience as this—but there are some who have not yet realised either the truth of what I have said or its logical application. I only wish that those who have failed to do so had been with me when I recently paid a series of visits to a girls' night shelter. I would just like to tell you of the first 12 cases as I found them. The first woman was evidently suffering from consumption—both parents and one brother had died from that disease. The second, who was a drunkard and had deserted both her husband and her children, was markedly neurotic and had suffered from St. Vitus's dance at ten years of age. The third was in all respects normal. The fourth was a deaf microcephalic, which, as you know, is a well-known type of mental defect. The fifth was a blend of the neurotic and microcephalic types and had at one time spent two years in a lunatic asylum. The sixth showed no congenital defect but now—at 40 years of age—her health was ruined by drink. The seventh and eighth were poor feeble creatures though without obvious physical stigmata. The ninth suffered from persistent bad memory, a defect probably due to a severe injury to the head with a spade at two years of age. The tenth was well developed physically and intellectually but had twice been in prison for theft; she was the daughter of a drunken loafer. The eleventh was normal, but the twelfth, a young girl who had been wandering away from home for a week, was a Mongolian, another well-recognised type of mental defect, and in addition was suffering from heart disease. In short, among the 12 who had found their way into a shelter for destitute girls there were only two normal individuals. Well, I give you these cases as I found them; they speak for themselves.

The feeble-minded are from their very nature feeble in all respects; they show their weakness in their moral qualities; they are therefore specially susceptible to bad influences. For this reason the Birmingham After-care Committee has been so urgent in demanding either boarding-school or colony accommodation for such of the feeble-minded as come from bad homes. Miss Dendy has demonstrated that far better results are obtained by removing the feeble-minded from bad homes and from the streets, where they learn nothing that is good and all that is bad. In certain cases we find that while there is apparently little or no intellectual or physical weakness, yet there is marked moral defect. Take as an example the girl I have already mentioned as having twice been in prison for theft—once for stealing a bicycle and once for stealing a cheque. A good-looking, healthy, well-developed girl, ready to answer all questions intelligently; judging from appearances only I think many mistresses would be ready to engage her. She has, however, stayed in one place two days, in another ten minutes, leaving because some trifling matter displeased her. When she stole the cheque from her mistress she was sharp enough to think it might not be cashed to a young girl, so she altered the Mrs. to Miss, a change which was at once detected by the cashier at the bank. In case there is any particularly charitable lady present I may say that this girl is now anxious to obtain another situation. In degenerates such as this the congenital tendency has spent its chief force on the moral centres, so that they are spoken of as cases of moral insanity. They are without sense of honour or shame; they are obstinate, lazy, and selfish. Their tendency to go wrong is out of all proportion to the temptations to which they are exposed. Some—possibly many—ought to be classed among the feeble-minded. For instance, think of a girl, 16 years of age, brought to see me by her father two days ago; the mother died from consumption and an aunt is now in a lunatic asylum; two sisters have also died from consumption. The girl showed no physical sign of defect but was dull and stupid with a significantly vacant smile; she reads and writes with difficulty and is no good at figures. The most marked characteristic is a regular kleptomania. She steals anything and everything. She stole a pocket-knife and ripped open her brothers' and sisters' money-boxes, spent some of the money on sweets and gave the rest away to the first children she met in the road. She is such a mixture of cunning and stupidity that when her father gave her a penny to buy a penny bun she turned back at the shop-door to ask him what change she ought to get. Such cases require care and training and are amenable to proper treatment, though I am ready to admit that good results are obtained but slowly. We generally find on investigation that there is deficient nerve energy; the habitual criminal is sometimes capable of great exertion for a time but not of regular systematic work. Such cases should be treated in an industrial home, separated, however, from the ordinary feeble-minded. The home should be under medical supervision; the medical treatment should be hygienic—unstimulating food, fresh air, baths, and exercise.

Now you must not think that I am going to excuse and explain away all wrong-doing. We live in an age far too ready to do that. I at least am not one of those who think that because a man is in a lunatic asylum he should be at

[1] A paper read at a combined conference of the National Association for the Feeble-minded and the National Special Schools Union on Oct. 13th, 1904.

liberty to kick an attendant and then go scot free. I would punish all such cases but I would make the punishment proportionate to the mental capacity of the individual. We should not judge such cases by ordinary standards or punish them by ordinary punishments. We must recognise that there now exists a class not adapted to their environment—individuals who have been well described as of "attenuated responsibility"; these ought not to be exposed to temptations greater than we know they can bear. Considerations such as these apply particularly in the case of feeble-minded girls. I need hardly remind you that in girls who are lacking in moral and intellectual qualities the lower passions are often strong and always uncontrolled. For this reason a large number of the inmates of penitentiary homes are found to be feeble-minded.

The objection may at once be raised that if the feeble-minded and the morally insane are to be put in industrial homes the expense to the community will be great. Certainly it means expense and in the first instance an increased outlay; ultimately the expenditure will be small compared with that already sustained by the healthy members of the community in the form of rates and private charity. At present, though many people do not realise it, we are paying for the support of the feeble-minded and not only paying but paying at a ridiculously high rate. For I am not contending that it is necessary suddenly to start shutting up a large group who have never been shut up before. I propose nothing really new. I only ask for a modification—a rational modification—of our present system of prisons, workhouse maternity wards, penitentiaries, reformatories, &c. I only ask for an extension of the methods adopted at Borstal prison with such gratifying results—methods which should have been adopted years ago. We do shut these cases up but we shut them up at the wrong time and in the wrong place. Just to illustrate this point think of the career of a feeble-minded boy who came under my notice. He absconded from a working boys' home and went to work on a farm; he left that to enlist in the army but was turned out as useless; afterwards he was convicted of bicycle stealing and sent to prison. Since 1901 he has not been heard of, but I am sure if he is alive he is not living at his own expense. With feeble-minded girls the folly of the present system of ignoring them till a crisis is reached is even more apparent. What actually happens with many of that class? Well, you know the usual programme as well as I do; maternity ward of the workhouse, penitentiary, prison, workhouse again. This is no fancied picture; I can give you many instances of such a career. There is a feeble-minded woman in Birmingham who has been admitted to the maternity wards of the workhouse nine times and who is now on the streets selling matches, a disgrace to the city and to our present legislation. Putting other considerations on one side it would surely be more economical to take charge of such a one from the first and place her in a home where she could be trained and protected. Think of all the costly institutions that have to be maintained for such cases under the present system. Think of all the elaborate machinery that must be kept in good working order. I am sure our magistrates would be glad if they could commit such people to the proper institutions from the first. A few weeks ago there was a notorious case in Birmingham of attempted suicide by a girl, aged 17 years, who had several times run away from home and who had nearly taken her own life before. She was allowed by the bench to be taken home but immediately went off again. When I saw her shortly afterwards in a night shelter I found that it was a case of hystero-epilepsy.

The Birmingham After-care Committee has long realised the truth of what I have just said; feeling, however, that fact was better than theory it decided to conduct an inquiry into the number of the feeble-minded in the various charitable institutions for young people in and around Birmingham. We did not concern ourselves, you must observe, with institutions intended primarily for the feeble-minded such as Miss Stacey's but with ordinary institutions intended for ordinary people. I visited 16 such institutions. I will first give you somewhat full details with regard to a Magdalen Home of which I have been the honorary medical officer for some years. This home, like most penitentiaries, is filled with young girls, girls in their teens, some of them very young. Of 97 consecutive cases 26 were feeble-minded, 7 were cases of moral insanity, one was epileptic, one was lunatic, and one was deaf and dumb. In fact, over 37 per cent. were mentally deficient. I have here classified as morally insane girls who were sharp and intelligent but without sense of honour or modesty and who were insusceptible to moral or religious teaching, thereby differing largely from the majority; nothing could stop them from lying or from stealing from their fellows. The subsequent careers amply justify our contention that such cases come ultimately on private charity or the rates. Thus the lunatic is in an asylum and the epileptic in the workhouse; of the 26 feeble-minded 12 are in the workhouse, one in an idiot asylum, one in a lunatic asylum, one in prison, and 4 in special homes. Altogether 19 out of the 26 feeble-minded are known in the space of four years to have again become a burden on the public. High as is the percentage of feeble-minded in this home it is confirmed by the numbers in other homes for girls. Even in a home where special precautions are taken to exclude the feeble-minded by means of preliminary inquiries and a medical examination I found among four girls one mentally deficient. She was a typical microcephalic. On inquiry I found she was peculiar and difficult to manage; she had threatened to commit suicide. Her father was known to have been a drunkard and her sister had been in a Magdalen Home. Without further details I may say that of the 862 young people who came under observation 94, or nearly 11 per cent., were defective to such a degree as to require permanent care. In two girls' night shelters I have recently visited the number of weaklings is distressing; among 29 I only found 8 normal individuals.

The principal causes of feeble-mindedness are: (1) deficient nutrition in the early years of life; (2) hereditary tendency to consumption; (3) descent from an insane or criminal stock; and (4) chronic alcoholism of one or both parents. In the moral, or rather the immoral, cases one of the latter factors is almost always to be detected—that is to say, a criminal, insane, or alcoholic inheritance.

Now, in attempting to solve the problem we must take a broad view. While thinking of the exigencies of the moment we must also look to the future. In the first place we must provide industrial homes for the feeble-minded already existing; we must do this partly for their own sake and even more with the object of preventing the nation being saddled with their offspring—other degenerates. We must decide to keep them, not for two years, not till they are 16, or 18, or 21 years of age, but till they are fit to mingle with the rest of the community. When we send a lunatic to an asylum we do not send him for some arbitrary period but till he is better. So should we act with these unfortunates. The work in the homes should be manual, not intellectual. Then we must educate the people in matters of hygiene. We must impress upon them that, as with most other forms of disease, these mental and moral defects do not come by chance but are the natural and inevitable result of breaking natural laws. Take the alcohol question alone. Does anyone who has thought about social reform at all and inquired into the family history of the inmates of our prisons and reformatories think that so long as the expenditure on drink in this country shows the appalling total of £180,000,000 a year we shall shake ourselves free from this terrible incubus of degenerates, criminals, epileptics, lunatics, and feeble-minded? Why, the figure I have mentioned has been calculated to represent an annual average outlay of £16 per family for the non-abstaining working classes and of £46 per family for the other non-abstaining classes. Let me just repeat—£18 per family a year for the non-abstaining working classes. We must therefore do our utmost to preach the gospel of simple food, of temperance, of fresh air, and of hard work. By these means we shall at last solve the problem.

Birmingham.

ON STREPTOCOCCAL INFECTION AND THE USE OF ANTISTREPTOCOCCIC SERUM.

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THAT antistreptococcic serum is of value in a number of cases of streptococcal infection has been proved in the results which have from time to time been published in the medical journals. Now that in practice a polyvalent serum can be obtained it is more likely that one will be able to "hit off" as it were a serum antitoxic to the particular strain of streptococcus found in the varying diseases produced

by that organism. In a paper on Chronic Streptococcic Endocarditis[1] Dr. T. J. Horder says: "The ideal serum for the treatment of any particular patient suffering from streptococcus infection must be one obtained by the use of the organism actually causing the disease in that patient, for this serum can alone be guaranteed to be specifically associated with the causal agent of the disease." No one will be bold enough to deny that in such a case where access was obtainable to a properly equipped laboratory in which the nature of the infection could be studied and an immune serum prepared conforming to the above principle this was the ideal treatment. When, however, in an Indian mofussil station one is confronted with severe cases mainly of a sapræmic nature there is no valid objection to the use of one or all of the various antistreptococcic sera available on the market. For whilst this serum seems to be the one in which the best therapeutical success has been attained, and it is impossible in a given case to say whether or not the patient will be benefited, yet to give the patient the best chance of recovery and immediately the infection is recognised clinically it is necessary that the serum should be applied as soon as possible before much toxin has formed.

During the past year in the two cases in which I used the serum it was to my mind difficult to get away from the finding that the patient's recovery was in great part attributable to its use, since most septicæmic conditions rarely recover spontaneously and in most the prognosis is grave. Considering that in the previous record of cases which had been treated with antistreptococcic serum and that even yet the makers of "polyvalent" sera state in the directions for its use: "The treatment of streptococcal infection by the injection of a bacterial serum is still in the experimental stage, and its results appear to be both uncertain and variable;" therefore the reporting of successes does not in the present state of our knowledge mean any real advance in the matter of serum therapy. The serum used was that prepared by Messrs. Burroughs, Wellcome, and Co., and in acute cases requiring immediate aid it can be recommended, since it seems to be possessed of sufficient of the "immune body." In future, however, as recommended by Lieutenant F. P. Mackie, I.M.S.,[2] if I were again treating cases with antistreptococcic sera, I should procure samples from as many sources as possible and give them alternately, on the principle that one would be more likely to "hit off" the particular variety of coccus causing the disease under treatment.

CASE 1.—The patient, a Hindoo female, aged 35 years, the mother of eight children, enjoyed apparent good health up to the latter part of her last pregnancy when she began to complain of an itching sensation inside the right ear. Shortly after delivery she noticed a thin sanious discharge commencing from that ear and in about a month's time it became suddenly inflamed, the orifice was almost completely blocked with matter, and she suffered from intense headache and severe pain in the ear night and day; accompanying these symptoms the discharge became purulent and the temperature rose daily to about 102° F. Under ordinary treatment these symptoms were alleviated and the temperature came down to 99°. A profuse discharge continued from the ear and in a week's time—viz., on April 17th—the patient was suddenly seized with rigor followed by fever, the temperature rising to 103°. On the same evening severe pain, accompanied with intolerable headache of a bursting and throbbing character, was marked and whilst the discharge from the ear became less the external auditory meatus was seen to be inflamed. This inflammation increased and extended to the external ear and the whole auricular region became hot, red, and swollen, whilst the lymphatic glands in the vicinity were enlarged and extremely tender.

I was called in to see the patient on April 19th and found her suffering from severe erysipelas extending almost over the whole right half of the head and forwards on the face to the outer canthus of the right eye. The cervical glands were enlarged and tender, the bowels were constipated, the urine was scanty, the tongue was coated, and she felt exceedingly drowsy. I prescribed the usual remedies and telegraphed to Calcutta for antistreptococcic serum which arrived on the morning of the 21st. The patient was then in a very low state, the inflammation extending still further, the drowsiness was more marked, and the extremities became cold; the temperature, which was still high, went up to 104°, the pulse was 120, and the respirations were 32. At 10 A.M. I injected five cubic centimetres of the serum and at 3 P.M. the temperature commenced to fall till 4.15 P.M., when it was 102·6°. She then passed urine which was cloudy and loaded with sediment and the tongue became moist. At 6.30 P.M. I again injected five cubic centimetres of the serum, the temperature being 103·4°, the pulse 116, and the respirations 28. The condition of the patient still further improved, the urine passed at 7.30 P.M. was clearer and in larger quantity, she sweated, and the lower extremities became warmer; the temperature also fell to 102°. On the 22nd there was noted a marked increase in the area of inflammation extending over the nose and face implicating both eyes and spreading laterally over the right side of the neck; she also complained of a pain in the throat when swallowing, groaned frequently, and continued drowsy. Throughout the day her temperature remained about 102°, the pulse was 128, and the respirations 28. At 1 A.M. on the 23rd the pulse became intermittent, the respirations a little hurried, there was a rattling noise in the throat, and subsultus tendinum was marked. On the 23rd the patient passed four or five semi-solid stools and the urine was drawn off by catheter and she appeared somewhat better. At 4 A.M. on the 24th there were convulsive movements of the limbs and body followed by perspiration and the temperature came down to 100°. The inflammation had now spread all over the face and neck, affecting the throat and on this account much difficulty in breathing and swallowing was experienced, whilst the patient remained in a semi-conscious state. As her condition was serious I injected a full dose—viz., ten cubic centimetres—of the serum. In the afternoon she became conscious, complained of pains all over the body, and could swallow nourishment. At 8 P.M. five cubic centimetres of the serum were injected. On the morning of the 25th the inflammation had extended to the shoulder and back of the chest, but it was particularly noted that the inflammation had receded considerably from the previously attacked parts and the right eyelids were less œdematous. The patient herself felt much better and could talk and swallow fluid food without difficulty. As steady improvement continued under the serum treatment I injected five cubic centimetres more of the serum in the morning, and whilst the inflammation spread half way down the back, yet its margin was not very raised, it was more superficial and it extended less actively than heretofore. On the 26th the patient's condition remained unchanged, except that she complained of some tightness of the chest accompanied by occasional cough and expectoration of some frothy mucus; on auscultation the base of the right lung was found to be somewhat congested. On the 27th two injections of five cubic centimetres each were given and the effect was very marked upon the inflamed area, as evidenced by its not extending, the gradual disappearance of its colour, and the absence of a raised margin. The patient's progress, hitherto satisfactory, now took on a new phase, the congestion of the lung above noted becoming a consolidation and the symptoms of the pneumonia completely masked those of the primary complaint. From April 27th to May 2nd the patient's condition was such that little or no hope was given of her recovery. The recurrence of fever, together with the hurried respirations and the frequent dry and troublesome cough, produced great prostration, but under appropriate diet and treatment, with very careful nursing, respiration became easier on the 1st and the lungs began to clear. The patient's temperature now became subnormal and she continued to make uninterrupted progress towards recovery.

CASE 2.—A young Hindoo female, aged 18 years, was delivered of her first child on July 16th, 1904. On the third day after delivery she had slight fever, of which no notice was taken; she was apparently doing well until the 23rd when she again had fever which continued with daily exacerbations each evening until August 1st, when I was called to see the case. Her condition was then as follows. The temperature was 103·3° F., the pulse was 96, and the respirations were 20. The tongue was thickly coated and the bowels were regular. There was no complaint of pain and there was no tenderness on pressure over the uterine region. The lady doctor who was in attendance on her at the time of delivery informed me that though the lochial discharge was now sweet, yet at

[1] THE LANCET, July 16th, 1904, p. 143.
[2] THE LANCET, Feb. 20th, 1904, p. 493.

the time there occurred a partial rupture of the perineum which had not been sewn up. The patient complained of severe headache at intervals and after a careful inquiry into the history of the case I was convinced that the symptoms above noted were due to septic infection and that I was justified in exhibiting antistreptococcic serum. I therefore injected the last bottle containing ten cubic centimetres of the supply used in the previous case—viz., that prepared at the Wellcome Physiological Research Laboratories (Series 136, dated Feb. 9th, 1904)—and wired for a further supply. The following day the patient felt much better and the temperature came down to normal. Meantime the lady doctor syringed the uterine cavity with an antiseptic douche. On the morning of the 3rd a new supply of the serum arrived (Series A14, dated May 16th, 1904) and as the symptoms of sapræmia persisted an injection of ten cubic centimetres was at once administered. The effect of the injection was soon manifest as the temperature, which was then 103·2°, had next morning fallen to normal and the other concomitants abated in like manner; the patient convalesced quickly and had no further return of the symptoms.

In a paper on Puerperal Sepsis[3] Dr. P. Horrocks says: "Of antistreptococcus serum I have had a large experience and in some cases it seems to act wonderfully well but it so often fails that I fear that at present one must admit that it is unsatisfactory." It may be possible, however, that since that paper was written the new issues of serum are more trustworthy and certainly in cases where the cause is undoubted—viz., a simple septicæmia or a sapræmia—good results can be obtained by the use of the serum. To achieve the best result the following factors seem necessary:—

1. That where the infection is "single" and a polyvalent serum is obtainable possessing the "immune body" it should be applied as soon as the illness is recognised, the object being to inject before much toxin has formed.

2. That the serum should be as fresh as possible.

3. In his Goulstonian lecture (1903) Dr. A. S. F. Grünbaum says: "Nor will any harm arise from a dose beyond what is necessary for mere neutralisation of the toxin; on the coutrary, the excess may dissociate a union of toxin and cell already completed." Therefore, in those cases in which the serum is doing good there is no danger in administering an excess and also from the above arises a second corollary—viz., that in those cases where there is no apparent benefit there is no evidence to show that it does harm.

4. That since the serum acts mainly by increasing phagocytosis and since in certain cases very little antidote is formed the administration of the serum should be continued for some time after apparent recovery until its action is quite complete.

For the full and comprehensive notes on Case 1 I am indebted to Assistant Surgeon Uma Prasanna Ghose, who was in constant attendance on the patient.

Dhubri, India.

NOTES OF MIDWIFERY CASES IN MADAGASCAR.

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DURING a residence of some 15 years in Tananarivo there have occurred in my practice several midwifery cases of more or less interest. It is not my purpose to give any exhaustive account of obstetrical conditions in Madagascar, as unfortunately in a general practice there has not been the requisite range of cases or opportunity to collect the large number of facts which are needed for any scientific study. The total number of cases on my list is 135, of whom 58 were Europeans and 77 were natives. Divided according to the sex of the offspring I find that during my first term (eight years) amongst the European births 15 were male and eight were female and amongst the natives 17 were male and seven were female; during the second term, of European births 72 were male and 23 were female, of natives 25 were male and 21 were female; in seven cases the sex was not recorded. Forceps were applied 37 times, 11 of these being in Europeans; one case died from septicæmia developed late in the puerperium; seven of the children were stillborn, at least two being dead before assistance was sought. The conditions for which forceps were applied were: inertia, 15 cases (nine Europeans); placenta prævia, two cases; pelvis justo-minor, four cases; rickets, three cases; spondylolisthesis, four cases (the same individual); male pelvis (?), one case; forehead presentation, two cases; and right occipito-posterior, four cases. Placenta prævia occurred 12 times in my cases; one died from post-partum hæmorrhage and six children were stillborn. Other complications were: transverse presentations, four cases; twins, five cases; atresia of os externum, one case; post-partum hæmorrhage, four cases; and hydramnios, four cases (accompanied severally by placenta prævia, one of twins, and great malformation—meningocele, supernumerary digits, eyelids not separated, no septum nasi, very small mouth, and rudimentary teeth). These few statistics are of very small value.

Pelvic deformities are not of great frequency. Pelvis justo-minor is perhaps the most common variety.

Rickety pelvis is rare. For an advanced case of this I did symphysiotomy, after which the child was delivered fairly easily with forceps; it was asphyxiated but recovered. Much attention was paid to the asepsis but the patient very rapidly developed septicæmia and died. A probable explanation was to be found in the fact of her having ozæna and so being likely to infect herself with her fingers which were probably placed on the vulva.

Spondylolisthetic pelvis.—A patient with a marked deformity of this character has returned to me for the fourth time for delivery. She was of good height and build and there was no evidence of the deformity until examination was made. The antero-posterior diameter of the pelvis was then found to be shortened by a large bony protuberance occupying the usual position of the sacrum and with its convexity directed towards the vagina. Its surface was not smooth, there being oblique ridges running downwards across it from left to right. The diagonal conjugate was three inches. The patient has had five children; the first was delivered in the country by craniotomy after a long delay. For the second she was brought to hospital, the head having been low down in the pelvis for seven hours. Forceps were put on and delivery completed, the child being alive but having a deep depression with sharp edges over the left side of the forehead above and below the coronal suture. This gave rise to a good deal of anxiety lest untoward symptoms should arise but nothing extraordinary appeared. The child, who is now nine years old, is very bright, so much so that he learnt to read in a month and the depression only appears now as a slight flattening. The third child was delivered with but slight delay; the head was driven well down but could not entirely pass the obstruction, therefore forceps were again applied. The depression was exactly as before. The fourth and fifth children were similarly delivered. There is no history of damage to the pelvis at any time or of any period of ill-health as a child, and the onset of the deformity cannot be traced. It appears stationary, as the depression it causes in the child's head is always precisely the same. No attempt has been made in the case of either of these children to raise the depressed bone, as the children have not appeared to suffer in the slightest degree therefrom and the depression has decreased so much that no very marked deformity has been left.

Funnel-shaped pelvis with vesico-vaginal fistula.—The patient had had two children and was brought to hospital after being in labour some hours. On examination the recto-vaginal wall was missing for a considerable distance. The cervix was felt as a soft protuberance directed posteriorly but the os uteri was nowhere to be found. The fœtal head was plainly detected through the tissues in the vaginal roof and had entered the pelvis. About an inch from the ostium vaginæ in the middle line of the anterior vaginal wall there was a small round orifice just large enough to admit the tip of the index finger; its edges were sharply defined and stretched. The fœtal head actually presented in this orifice and the membranes were still unruptured. The contractions of the uterus did not serve to dilate this orifice and there was no further descent of the head into the pelvis. The bony pelvis was contracted at the outlet; from the rough observations made the conjugate was a little less than three inches and the transverse diameter less still. The history given was that this was the second pregnancy, that the first was terminated by mutilation of the child and followed by incontinence of fæces due to the sloughing away

[3] Brit. Med. Jour., Feb. 13th, 1904, p. 349.

of the posterior vaginal wall and an uncertain history of incontinence of urine was also obtained. After watching the case for a few hours and finding that no progress was made it was decided to perform craniotomy. The vagina was again carefully examined when the patient had been anæsthetised and the observation with regard to the presentation of the head in the aforesaid orifice in the middle line of the anterior vaginal wall was verified. The membranes were ruptured without causing any progress. A small incision was therefore made in the middle line backwards from the orifice alluded to; the perforator was introduced and the child was delivered fairly easily after craniotomy. A good recovery was made and before the patient returned home the opportunity was taken to examine her again. The posterior vaginal wall was absent, except in the upper third, and its margin was sharp. The orifice an inch from the ostium vaginæ, through which labour had taken place, was easily found; it had now healed again and contracted to the size it had been during labour. The finger introduced into it entered a soft, well-defined Y-shaped cavity behind the pubes; the probe introduced into the urethra first passed by this orifice and then into the cavity. Urine also escaped by this orifice and not by the urethra. It appeared evident, therefore, that we were really dealing with a vesico-vaginal fistula and that the child was born through that. No fistula or thickening was detected through the posterior wall of the bladder which could communicate with the uterus, but there appeared no other possible conclusion open to us than that a fistula of that character had been formed, probably after the first labour, and that the second child passed through that into the bladder and thus into the fistula. I feel that an apology is due for the mere suggestion, but this seems the only satisfactory explanation of the facts observed. An operation was performed for the relief of the fistula but it was only partially successful.

Patient the subject of malformed uterus.—The patient had had seven pregnancies, of which three ended in abortion at five and a half, six, and eight months; of the four children born alive, one survived one week, another two weeks. On examination after abortion in May, 1900, a fleshy septum was found dividing the vagina into right and left halves. At the cervix this was completely torn through, so that the finger could pass all round the cervix. The cervix was very broad and had two orifices side by side with a thick septum between; the right was the smaller, the left had a thicker margin and a tear up to the vaginal roof on the left side. Each os uteri led to a separate cavity. From the fifth month of her next pregnancy she kept her bed till her confinement, as she was subject to frequent attacks of severe pain chiefly located to the broad ligament of the side on which the pregnancy was and which she always associated with the commencement of abortion. She was confined at full time in June, 1901, and the septum was then found more torn and the condition of the uterus was more readily discovered. On the right side was the usual hard "cricket ball" condition familiar in the newly emptied uterus; in the middle line was a sulcus going down to the level of the pubes and on the left side was a smaller rather elongated swelling, less hard than that on the right. The pregnancy had been on the right side. On each of these occasions a large thick membrane was passed on the day of confinement or within two days, much to the astonishment and annoyance of the patient, as the nurse always assured her that the uterus was empty. After the last abortion the placenta had to be removed by hand, so that it was clear that the uterus was empty so far as the side on which the pregnancy had been was concerned. Thus the origin of the membrane from the unimpregnated uterus was evident. An attack of perityphlitis supervened after confinement, for which operation became necessary; recovery was perfect. Opportunities have arisen since of making further examination and the uterus has been found to be quite double, each half being of the size of a bantam's egg and with a wide sulcus between. The uterus didelphys,[1] or possibly the uterus bicornis duplex, would appear to represent most nearly the condition met with. In May, 1903, the patient was confined at eight months of a daughter, the pregnancy having been this time on the left side. She had not been quite so absolutely bedridden during this pregnancy. The puerperium was normal but the infant only survived for two weeks, eventually succumbing to extreme irregularity of the heart's action. No murmur was heard at any time but the heart would suddenly alter from a rate of 130 to one of 44 and as suddenly back again, a general lividity being noticeable at such times. A few months later the mother went through a mild attack of left-sided pneumonia, which left her with a mitral regurgitation. This attack evidently occurred during the first month of pregnancy. On this occasion the child was again on the right side and at about the fifth month the mother was obliged to keep to her bed until the birth of the child in April, 1904. During the puerperium she suffered very severely from malarial fever.

Delayed labour.—I have notes of two cases showing somewhat extraordinary power of endurance and resistance to disease. The first was that of a woman, a 13-para, living in a country village, three hours' journey away. After a first stage lasting apparently 48 hours and a second which was not terminated after a similar interval the patient was brought here in a palanquin. The child was already putrid and the head was nearly down on the perineum. For several hours the pains had ceased but on her arrival she had walked upstairs and this started them again so that the head advanced and delivery was completed by traction. A discharge of fœtid liquor amnii followed; the uterus contracted well but the placenta was not detached, consequently, after an injection of carbolic lotion, the hand was reluctantly introduced and the placenta was delivered, the uterus being then in a condition of hour-glass contraction. The pulse was 86 and for the next few days, in spite of the lochia being fœtid, it fell from that gradually to 60, though there was sometimes a rise in temperature. A urethro-vaginal fistula followed which was healed by operation. The patient has since had a normal confinement.

The second case was that of a woman, a secundipara, who was confined of a male child on the evening of April 3rd about three hours' journey from here. Twins were diagnosed but as there was no advance during the next day she was brought to town in a palanquin on the 5th. After some hours labour was terminated by the birth of a second male child, alive and weighing 6 pounds 4 ounces. There were two separate placentæ with membranous connexion between and separate cords and amniotic sacs. The patient made an uneventful recovery, out of keeping with the rather extraordinary experience through which she had passed.

Tananarivo, Madagascar.

[1] Herman: Diseases of Women, pp. 608 and 609.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

PURPURA CONVALESCENTIUM FOLLOWING MEASLES OF MILD VARIETY.

BY J. FORTUNE, M.B. EDIN.,
ASSISTANT MEDICAL OFFICER, DEVON COUNTY ASYLUM, EXMINSTER.

ON Oct. 3rd last I was called in to see a child suffering from epistaxis. She was five years of age and according to her parents' statement was recovering from measles. She had had the initial symptoms on Sept. 26th and the rash had appeared on the 28th. There was at the time an epidemic of measles in the district. On examination the skin was mottled with petechial hæmorrhages, the largest being of the size of a pea. These were distributed uniformly over the limbs and trunk, the face being unaffected with the exception of the upper lip. There was a subconjunctival extravasation in the left eye. The nose was bleeding profusely and there was hæmaturia. All the petechiæ were of a uniformly dark red colour and so far as could be judged were of recent date and simultaneous. On the arms and legs could be seen faint yellowish-red stains as of recent measles but no desquamation could be distinguished. According to the mother's statement this "second rash" appeared on Oct. 2nd along with the epistaxis and hæmaturia at 6 P.M. Since then the epistaxis had continued unabated. The child's temperature was 98° F. She complained of no pain, there was no sign of rickets, the gums were healthy, and there was no history of hæmophilia. All the organs were normal with the exception

of the spleen, which was enlarged but not tender. There had been no sickness, vomiting, or convulsive movements. The bowels were constipated; the pulse was 112, soft, and full; there was no swelling of joints; the skin was pale. The urine was of a port-wine colour and was thickened with blood clots. The right labium majus showed an extravasation under the skin measuring three inches by one inch.

The patient was treated with tannic acid insufflation, which stopped the epistaxis at once and permanently, and internally with ergot and calcium chloride, 15 grains every four hours. The subsequent history of the case was as follows. On Oct. 4th the bowels were moved; melæna was present. The temperature was 98·2°. Hæmaturia was also present. On the 5th hæmaturia was less marked. There were changes in the colour of the extravasation, but the yellowish-red markings exhibited no change. There were two additional patches of ecchymosis on the face. On the 6th the spleen was not enlarged. A clay-coloured motion was passed. The urine was porter-coloured. On the 7th no hæmaturia was present. The patient was allowed up. On the 10th there was no blood or albumin in the urine. The ecchymosis was fading.

The difficulty in this case was the diagnosis. The prevalence of an epidemic and the history of the case, corroborated by the stains left, undoubtedly pointed to measles. The onset, with vomiting and catarrh of the eyes and throat, had been marked on Sept. 26th. Was this a relapse but of purpuric type? The absence of elevation of temperature, of the usual initial symptoms, and the well-nourished state of the child were against the acceptance of this as the infrequent purpuric variety, in addition to the large size of the extravasation in the labium. The age and absence of pain were against scorbutic rickets and the healthy state of the gums negatived scurvy. The readiness of the blood from the nose to clot and the negative previous personal and family history put hæmophilia out of account, as did the absence of sickness and joint swellings negative Henoch's purpura and incidentally peliosis rheumatica. The only conclusion at which I could arrive was that it was a case of purpura convalescentium following the action of the toxin of measles, remarkable in that in its other manifestations it was of the mildest type.

Exminster.

WOUND OF THE THORACIC DUCT IN THE NECK DURING AN OPERATION; RECOVERY.

By CHARLES R. KEYSER, F.R.C.S. ENG.,
SURGICAL REGISTRAR TO THE CANCER HOSPITAL.

THE following case is of interest as until comparatively recent times a fatal prognosis was always given after the occurrence of such an accident. Even now all the text-books on surgery are not in accord as regards the result. For example, Rose and Carless[1] say that the accident is "not necessarily fatal, and that if the wounded vessel can be secured, as by ligature or forcipressure, recovery may ensue." Allen and Briggs,[2] however, report 15 cases of operative injury to the duct with 14 recoveries. Keen,[3] also, has reported four cases, three of which recovered, and in the fourth the fatal result was not especially influenced by the wound of the duct. On the other hand, Schoff[4] records a case where after removal of carcinomatous glands of the neck the injury to the duct was not discovered until the stitches were removed. The wound was distended with chyle and it was packed with iodoform gauze. This, however, was unsuccessful and the patient died 15 days later as the result of an accumulation of chyle in the thorax. Jacobson[5] also mentions that death occurred in one of his cases.

The following is a brief account of the case which I have recently seen. A woman, aged 50 years, was admitted into the Cancer Hospital on April 30th, 1904, under the care of Mr. F. Bowreman Jessett, for recurrent carcinomatous growth in the glands in the left side of the neck. The primary growth was in the left breast which had been amputated in April, 1903. On cutting down on the mass in the neck only part of it could be removed owing to intimate adhesions connecting it with the subclavian and jugular veins. The wound was therefore closed. For several days afterwards there was a copious discharge (several pints) of creamy fluid which simply poured out. This discharge continued for a fortnight and then gradually ceased.

Wimpole-street, W.

[1] Manual of Surgery, last edition.
[2] American Medicine, Sept. 14th, 1903.
[3] Text-book of Surgery, 1903.
[4] Wiener Klinische Wochenschrift, Nov. 28th, 1901.
[5] The Operations of Surgery, fourth edition.

A CASE OF DERMOID CYST OF THE STERNUM.

By ARTHUR C. BIRD, M.R.C.S. ENG., L.R.C.P. LOND.,
SURGEON TO THE VICTORIA COTTAGE HOSPITAL, SIDMOUTH.

THIS condition being somewhat unusual the case seems to be deserving of publication.

The patient was a man 45 years of age. His family history had no bearing on the case. He suffered from rheumatic fever 11 years ago and of late years had been a free liver. He had never had syphilis. Two years ago he noticed a lump in his sternum of about the size of a marble which very gradually increased in size. He consulted a practitioner who told him to wear a linseed poultice on the lump day and night for a month, but as this application did not produce the desired effect he sought further advice and was treated by a physician in a county hospital who kept him in bed for three weeks when he was dieted carefully and given medicine at regular intervals. He was made an out-patient for seven or eight months, taking medicine all the time. The lump in his sternum, however, did not become any smaller. On Sept. 20th, 1904, he came under my care in the Victoria Cottage Hospital at Sidmouth. He was a bloated florid man with acne all over him and presented for inspection a large round tumour of about the size of a turkey's egg situated in the mid-sternal region of his chest, not adherent to the skin but seemingly attached above to the manubrio-gladiolus juncture. The tumour did not pulsate but fluctuation was easily obtained. Previously to performing an operation I drew off some thick turbid and somewhat curdy white fluid with an exploring syringe. The heart, the lungs, and the urine were all found to be normal. The pulses were equal on both sides and there was no tracheal tugging. There was some enlargement of the liver but no ascites.

The following operation was performed on Sept. 25th. Under A.C.E. mixture given by my colleague, Dr. G. A. Leon of Sidmouth, I made an incision about five inches long over the cyst and after all bleeding points had been secured I commenced enucleation of the cyst which was free below but adherent above and at the sides. After some little difficulty I managed to liberate it at the sides and to secure the fairly large vessels that ran into it with fine silk and eventually freed it all round except at the top end, which was pedunculated and dipped down at the juncture of the manubrium and the gladiolus. This pedicle was then cut through and some of the contents of the cyst escaped. The field of operation was then carefully swabbed out with hot perchloride of mercury lotion (1 in 1000) and after all bleeding points had been secured the skin was brought together with silkworm gut and horsehair and a dressing of cyanide gauze and wool was applied. The cyst proved to be a dermoid. The patient's recovery was uninterrupted.

Old Hayes, Sidmouth.

UNIVERSITY OF CAMBRIDGE.—Dr. D. MacAlister has been elected by the Senate as the representative of the University on the General Medical Council for a fourth term of five years dating from Nov. 13th, 1904.—Mr. K. Lucas, recently elected to a Fellowship at Trinity College, has been awarded the Gedge Prize in Physiology for his dissertation on the Effects of Tension upon Skeletal Muscles.—Mr. Francis Darwin, M.A., M.B. Cantab., has resigned the Readership in Botany.—The examiners for medical degrees are Professor J. B. Bradbury and Professor Sir T. R. Fraser in Pharmacology, Professor G. Sims Woodhead and Professor S. Delépine in Pathology, Mr. Hopkins and Dr. Brodie in Physiology, Dr. Hill and Mr. Parsons in Anatomy, Mr. Shipley and Professor H. Marshall Ward in Biology, Mr. Purvis and Mr. Sell in Chemistry, and Mr. Bevan and Mr. Fitzpatrick in Physics

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

VICTORIA HOSPITAL FOR CHILDREN, CHELSEA.

TWO CASES OF ACTINOMYCOSIS OF THE SKIN IN CHILDREN.

(Under the care of Dr. WALTER CARR, Mr. RAYMOND JOHNSON, and Mr. D'ARCY POWER.)

FOR the notes of the case we are indebted to Mr. A. H. Curtis, house physician.

CASE 1.—A girl, aged nine and a half years, was admitted to the Victoria Hospital for Children, Chelsea, on April 28th, 1904, under the care of Dr. Walter Carr. She had been in bed for seven weeks under the care of a medical man who had treated her for muscular rheumatism and endocarditis. She had also suffered from several attacks of breathlessness and cyanosis. A swelling was first noticed on her chest a month before admission. It was tender and increased rapidly in size until, on April 18th, it broke down in several places and began to ulcerate. The child lived comfortably and amidst healthy surroundings. There were no stables near the house nor had she had access to any corn through

CASE 1.—From a photograph by Mr. E. S. Worrall, radiographer to the hospital.

which she might have become infected. The patient was a pale nervous girl, well nourished, but rather flabby. There was no enlargement of the axillary or cervical glands. On the chest there was a swelling of uneven shape beginning at the lower end of the sternum, extending to the anterior axillary line and involving the nipple. It was ulcerated in several places, the ulcers measuring from half to three-quarters of an inch across. They bled easily and in several places there was a slight purulent discharge. The swelling was extremely tender to the touch and gave no sense of fluctuation. The skin over it was of a purple-red colour, gradually fading to white at the edge. The neighbouring veins were dilated. Examination of the chest showed that the cardiac impulse and the area of dulness were obscured by the swelling. The heart sounds were normal except for a systolic murmur over the pulmonary area which was conducted upwards to the clavicle. Very rough friction sounds were heard during inspiration at the base of the right lung, extending from the back into the axilla. On May 5th a fresh focus of the disease, which rapidly increased in size, was noticed in the left mid-axillary line over the seventh and eighth ribs. The percussion note round the swelling was dull and some friction was heard on auscultation, though the friction at the right base had almost disappeared. The child at this time suffered almost daily from short attacks of breathlessness and cyanosis. The purulent discharge increased in quantity and the yellow grains characteristic of actinomycosis were clearly visible. The ray formation was demonstrated under the microscope by Gram's method of staining. The patient was given potassium iodide from the fourth day after her admission to the hospital. The dose at first was five grains and it was increased by two grains every third day until she was taking 90 grains a day. The result of this treatment proving unsatisfactory an operation was thought advisable and on June 10th the patient was placed under the care of Mr. Raymond Johnson. The sinuses were probed, and one going deeper than the others seemed to pass a short distance into the thoracic wall, though no actual connexion with the pleura or lung could be distinguished. Some of the diseased skin was removed and the sloughing tissue carefully scraped away. Each focus of disease was similarly treated and much benefit was derived from the operation, whilst the temperature, which had shown evening rises to 101° and 102° F., now remained normal. On June 23rd a third swelling made its appearance just behind the previous one. It was opened and scraped and the old granulations were again curetted.

At the present time—October, 1904—the physical signs in the chest are as follows. The position of the cardiac impulse and area of dulness cannot be defined owing to the condition of the thoracic wall. On auscultation a musical murmur is heard, systolic in time, situated over the pulmonary area, and conducted upwards to the clavicle and to the left axilla. At the apex the sounds are normal. The left side of the chest bulges slightly and its movements are not so free as on the right side. Round the margins of the growth, and extending upwards to the second rib and on the left side as far as the anterior axillary line, vocal fremitus is absent; the percussion note is almost completely dull and the breath sounds are bronchial in character. There is also a small patch of pleural friction at the upper part of the growth. At the back the physical signs show no difference on the two sides, as the right side appears now to be quite healthy. As to the growth itself there are no signs of active disease externally. There are four small patches of granulation tissue, the skin surrounding the largest patch being red in colour and the veins dilated. There is no pain but some tenderness is felt on firm pressure. The patient is markedly improved in health and is able to walk about the ward.

Remarks by DR. CARR.—In this case it was impossible to say that the iodide exercised any inhibitory effect on the growth, for even when the child was taking the largest dose not only was there no sign of healing but fresh nodules continued to appear, and the temperature was persistently hectic in type. The improvement in the constitutional symptoms which followed immediately upon the first scraping was remarkable and clearly indicates that whenever practicable free removal is the essential factor in the treatment of actinomycosis, although the administration of iodide of potassium in large doses doubtless assists in the final eradication of the disease.

CASE 2.—A boy, aged 11 years, was admitted to the hospital on May 16th, under the care of Mr. D'Arcy Power, complaining of pain and swelling in the lower part of the abdomen. He said that this was caused by a fall at the beginning of April when a man knocked him down and fell across his chest. Nothing was noticed until about the middle of April, when a white swelling appeared below the navel which soon afterwards became red and began to discharge. There was no history pointing to the source of infection. The boy was thin and pale. He walked with a stoop and was evidently in pain. There was a large

inflammatory swelling in the hypogastric and right iliac regions in connexion with the abdominal wall. The margins of the swelling were irregular and indefinite, and in the centre were two foci each measuring rather more than an inch across. These foci were soft and fluctuating, whilst from one a red purulent discharge issued through two or three sinuses. The skin over the swelling was of a purple-red colour, merging into bright red at the margins. The surrounding abdominal wall was hard and indurated, the slightest pressure upon it giving rise to considerable pain. In the umbilicus was a small polypus with a purulent discharge issuing from beneath it. There were enlarged lymphatic glands in either groin and in the right axilla. The temperature on admission was 101° F. On May 18th Mr. D'Arcy Power made an incision over the growth and removed a large quantity of dark brown slough. He then thoroughly scraped the bottom of the cavity, which consisted of strands of coarse fibrous tissue invading the rectus abdominis muscle so extensively that the deep epigastric artery was exposed. There was no pus. Sections of the tissue, stained by Gram's method, showed that it consisted of granulation tissue containing typical masses of actinomyces. Iodide of potassium was given in doses of three grains increased every few days by three grains until the patient was taking 90 grains a day. The wound was dressed daily and continued to granulate satisfactorily until about three weeks later a fresh focus of disease appeared at the lower margin of the previous mass. This growth was accompanied by a rise of temperature to 100·8°. It was removed by scraping. On June 11th the patient had a troublesome attack of diarrhœa which lasted four days and was checked by salicylate of bismuth. Since then he has had three other attacks of diarrhœa, which were treated in a similar manner, and on each occasion the administration of iodide was stopped for a time. A third focus of disease appeared towards the end of July close to the former masses and this too was scraped, as well as the old granulating areas.

Up to the present time—October, 1904—the boy has been steadily improving in his general health. He was sent to the Broadstairs Convalescent Home on Sept. 22nd and he now has a narrow strip of granulation tissue across the hypogastric region which measures about three and a half inches in length. The skin surrounding this area is of a dull-red colour, thickened, firm and resistant to the touch, but the neighbouring abdominal wall is normal in colour and consistence. There is no pain and the inflamed part is only tender when firm pressure is made upon it. The boy walks about without discomfort.

Remarks by Mr. D'ARCY POWER.—It is so unusual to have two cases of actinomycosis in a children's hospital at the same time that I asked Mr. Curtis to put his notes together for the purpose of publication. The patients were a boy and girl, aged respectively 11 and nine and a half years. In neither case was it possible to trace the source of infection. In each case the disease seemed to be primary in the skin, although in the case of the girl there is, I think, very little doubt that the pleura and lung have become involved. In my own case I had no difficulty in recognising the nature of the disease when I first saw the patient as the appearances were wholly distinct from the dermatitis of tuberculous or syphilitic origin which is so common in a children's hospital. The scraping had a more rapid effect upon the growth than the treatment by iodide of potassium, but in the case of the boy we satisfied ourselves that this drug had a very definite action because the growth increased as often as the iodide was left off and subsided again when it was administered. I did not see any necessity for the injection of iodides, though this method of treatment may be necessary if the boy continues to develop fresh foci of inflammation.

ROYAL SURREY COUNTY HOSPITAL, GUILDFORD.

A CASE OF STRANGULATED HERNIA "EN BISSAC" COMPLICATED BY THE PRESENCE OF AN UNDESCENDED TESTIS.

(Under the care of Mr. C. J. SELLS.)

FOR the notes of the case we are indebted to Dr. G. P. Hawker, house surgeon.

The patient was a man, 26 years of age, and the father of three children. On July 25th he noticed a sudden swelling in the right inguinal region, which was accompanied by vomiting and a griping pain in the lower half of the abdomen. At this time he was constipated; later in the day he noticed that he could no longer see or feel the testicle which was normally situated over the external abdominal ring. On the 26th he was still sick frequently but the swelling became smaller. On the 27th he saw a medical man who gave him an opium pill and the pain disappeared; there was then no obvious hernia. On the 28th he left his bed and walked some distance when he was suddenly seized with pain in the epigastrium and vomiting and the swelling in the inguinal region again became prominent. On the 29th pain was still acute in the epigastrium and the vomiting was constant. Constipation had been complete since the 24th. When admitted into the Royal Surrey County Hospital on the evening of the 29th he stated that the testis was in the lower part of the canal in the morning and that the swelling had decreased since that time. There had been no difficulty or pain on micturition. He had had attacks of pain in the right groin for several years on lifting weights.

On admission he was obviously in great pain with a pulse-rate of 88 and a dry furred tongue. The pain was referred to the epigastrium and there was constant hiccough; the abdomen was generally distended and tympanitic but moved well. There was a swelling in the usual situation of an inguinal hernia extending into the scrotum; there was no testis to be felt anywhere on the right side; in the inguinal canal there was a semi-fluid swelling with no impulse on coughing and apparently a typical strangulated hernia. An ice-bag was applied and an enema was given with a good result. Two hours afterwards ether was administered and on examination the swelling was found largely to have disappeared from the canal and there was none in the scrotum. The finger could be passed well up the canal and only felt what appeared to be a fluid swelling between the finger and the abdominal wall. As the case was supposed to be one of inflamed retained testicle he was sent back to bed and was given some morphine and four grains of calomel with some "white mixture" in the morning. On the 30th he still had great pain in the epigastrium and the pulse-rate had increased to 100; hiccough was still present but the vomiting had ceased, notwithstanding the anæsthetic. In the evening the pulse-rate had risen to 120; distension was greater and fæcal vomiting set in. At 1.30 A.M. on the 31st he was anæsthetised and operated on. When the inguinal canal was exposed a sac containing some thin yellow fluid was found but no gut was seen. On passing the finger up the canal the testis was felt and pulled down; it appeared to be quite normal. On opening up the canal further a diverticulum of the sac was discovered with a small piece of strangulated gut. The situation was just over the internal ring and only three-quarters of the gut was nipped. The colour was a bright red and it appeared as if the strangulation was of quite recent occurrence. The gut was returned, a radical operation was performed, and as it was impossible to bring down the testis into the scrotum it was removed. The after-history is unimportant and the patient made a perfect recovery.

Remarks by Dr. HAWKER.—The interest of the case was centred in the question as to how much of the symptoms was due to the retained testicle. From the onset of the vomiting and the swelling to the operation there was an interval of nearly six days. Though the gut was not entirely obstructed, if the strangulation had been present for long, the resulting inflammation would have caused a greater change in the appearance of the bowel both at the obstruction and above it; probably the gut had formed the swelling in the inguinal region and had gone back under the ice-bag treatment, and a small piece had become lodged in the diverticulum and eventually strangulated; the lower part of the sac still contained fluid which caused a bulging in the inguinal canal. The hernial protrusion probably took place on July 28th and the vomiting previously to that time was due to the retained testicle which itself caused the hernia.

TIVERTON INFIRMARY.—The new laundry, which has just been added to the Tiverton (Devon) Infirmary through the generosity of Mr. J. Coles, was opened on Oct. 15th. The Tiverton Infirmary has performed much useful work. Since 1868 it has treated 45,000 patients and since the new operating theatre was opened in 1899 there has been an annual average of 145 in-patients.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Pathology and Prevention of Secondary Parotitis.—Symptomatic Parotitis.

A MEETING of this society was held on Oct. 25th, Sir R. DOUGLAS POWELL, Bart., the President, being in the chair.

Mr. RUPERT T. H. BUCKNALL read a paper on the Pathology and Prevention of Secondary Parotitis. He said the object of the first part of the paper was to prove that secondary parotitis was due to the infection of Stenson's duct with micro-organisms from the mouth. He gave a brief summary of the clinical features of secondary parotitis and the circumstances in which it arose. He then criticised the theories of origin that had been advanced. The previously published evidence in favour of the theory of duct infection was then shortly analysed, and further evidence in support of this theory was brought forward, based on a study of the pathology of six successive cases of secondary parotitis. The theory of duct infection having thus been proved, evidence was brought forward in the second half of the paper to show that secondary parotitis might consequently be prevented. The following experimental evidence was quoted to prove that duct infection could only occur in the presence of certain abnormal predisposing conditions. Claisse and Duplay had shown that the healthy parotid duct could not be infected, either by smearing its orifice with micro-organisms, or by introducing organisms into its lumen *viâ* the normal orifice of the duct, or an artificial fistula; but that an ascending infection of the duct, leading to the production of parotitis showing all the appearances which had been observed in secondary parotitis in the human subject, could easily be produced by either of these methods under the following circumstances: First, if the micro-organisms introduced were excessively numerous or virulent; secondly, if the general vitality of the animal had been previously depressed by starvation or other methods; and thirdly, if the normal secretion of the parotid had been altered in quantity or quality in one or other of the following ways: (*a*) by ligaturing the duct and preventing the flow of saliva after infection had been attempted; and (*b*) by administering drugs, such as opium, which check and alter the salivary secretion. Clinical evidence was then brought forward to show that in all cases complicated by secondary parotitis the predisposing conditions which led to duct infection had been present to a marked degree. It was probable, therefore, that by preventing the onset of these predisposing conditions or dealing with them if they arose duct infection and secondary parotitis might be avoided. The paper was illustrated by a series of lantern slides which clearly demonstrated the blocking of the ducts of the gland whilst the vessels remained free from any thrombosis.

Dr. B. N. TEBBS read a paper on Symptomatic Parotitis. He said that symptomatic, secondary, or metastatic parotitis was a subject round which much interest and discussion had centred. A complication of other diseases, rather than a disease *sui generis*, it was best known, perhaps, as a sequela of abdominal operations and disorders, and of certain of the specific fevers, but there were many other conditions of which it was a recognised, if less common, complication. The only systematic study of the subject in this country was contained in the admirable papers by Mr. Stephen Paget published in the years 1886 and 1887, which constituted the chief source of their knowledge of this disorder. Series of cases had also been published in America by Goodell and Morley and in France by Benoit. The present paper was founded on a collection of 77 hitherto unpublished cases of this disorder, nearly all of which were taken from the records of St. George's Hospital. Previous observers had been rather inclined to look on the disorder as more or less of a specific disease and to endeavour to adopt one explanation that would cover all the cases. Believing symptomatic parotitis to be a disease of rather heterogeneous pathogeny Dr. Tebbs attempted to classify the cases provisionally as follows: A. Acute parotitis following, or in connexion with, (1) abdominal operations and diseases of the alimentary canal and its appendages; (2) operation on, and disturbances of, the generative organs; (3) operation on, or injury of, portions of the body other than the abdominal and pelvic viscera; (4) certain diseases of metabolism and chronic intoxications; (5) the specific fevers; and (6) inflammatory conditions of neighbouring parts. B. Recurrent parotitis and chronic enlargement of the gland. The acute cases seemed to fall naturally into two main groups, one of which was undoubtedly of septic and the other probably of toxic origin. Believing that in the majority of the septic cases the infection of the gland arose not by a spread along the duct from the mouth but by the blood stream, he had paid special attention in the cases to the evidence of a primary septic focus and to the coexistence of other septic complications in the patients who developed parotitis. He said that two causes were at work in the causation of parotitis; first, the predisposing cause was suppression of secretion, which lowered the resistance of the gland. This suppression preceded the actual parotitis and was probably due to reflex nervous inhibition; it might occur although solid food was being given by the mouth. Secondly, the exciting cause was sepsis. The path of infection was probably by the blood stream and not an ascending infection by the duct; the following reasons for this view were given. First, most of the cases developing parotitis were septic. Parotitis was commonly associated with septic peritonitis. The intraperitoneal sepsis probably formed the primary focus of infection. Secondly, parotitis was commonly associated with other septic complications of hæmic origin. Thirdly, the severity of the attack of the parotitis varied with the severity of the peritoneal infection and with the severity of other septic complications when present—e.g., resolving parotitis was associated with simple pleurisy and suppurative parotitis with empyema. Fourthly, parotitis had become relatively less frequent with improvements in antiseptic surgery. Fifthly, socia parotidis was usually involved subsequently to the main gland. Sixthly, employment of oral disinfectants had absolutely no influence in preventing this complication.—The PRESIDENT said that the subject under discussion was of considerable interest and although the authors who had read the papers agreed that symptomatic parotitis was a secondary infection yet there was a considerable difference of opinion as to the path of infection, the one holding that infection arose through the duct of Stenson, while the other held that infection occurred by the blood stream.—Mr. STEPHEN PAGET referred to the series of cases of parotitis which he had published many years ago. He was of opinion that all these cases were due to infection and though he had in his original paper referred to the possibility of sympathetic parotitis he thought that such a view propounded before the nature of these cases was thoroughly understood should not now be considered. The sections which Mr. Bucknall had exhibited seemed to him to prove almost conclusively that infection took place through the duct but at the same time he had to admit that Dr. Tebbs in his paper had brought forward considerable evidence pointing to an infection by means of the blood stream, a reflex inhibition of the secretion of the gland being a predisposing cause.—Mr. J. D. MALCOLM said that the pathological evidence which Mr. Bucknall had brought forward seemed to him to prove that infection of the parotid gland occurred along the duct. He could not agree with Dr. Tebbs that parotitis always followed septic conditions, for he felt sure that it occurred after cases of ovariotomy in which there was no sepsis. He mentioned two cases of ovariotomy in which parotitis had occurred and at an early stage in the disease he had examined the orifices of Stenson's ducts and found them inflamed. The dry mouth, the form of diet, and the administration of opium were all factors which predisposed to oral sepsis. He thought that parotitis was less common since antiseptic treatment of the mouth had been adopted, but the earlier administration of solid food and the absence of opium might also in part account for its diminished frequency.—Mr. W. MCADAM ECCLES said that he thought that both views which had been suggested for the path of infection of the parotid gland might be correct and he compared the infection with that which took place when the testicle was infected from the urethra, for he believed that that organ might be infected either directly or by the blood stream. He referred to two cases of abdominal disease in which no operation had been performed but in which parotitis had supervened after severe hæmorrhage into the intestinal tract. In both these cases the temperature had been raised before

the onset of the attack and suppuration occurred in the gland.—Mr. J. P. LOCKHART MUMMERY referred to the work of Professor C. S. Sherrington who had shown that the specific gravity of the blood was raised to a considerable degree after operation on the bowel. This had been shown both experimentally and in operation on the human subject. The increase in the specific gravity of the blood would account for the diminution of the salivary secretion and hence a greater tendency to infection.—Dr. C. O. HAWTHORNE said that he considered the occurrence of parotitis in cases of gastric ulcer was very rare and he was surprised at the number of cases in which it had occurred in Dr. Tebbs's series. He mentioned two cases of parotitis following hæmatemesis which he had seen and he could only find reference to one other case and that was one recorded by Mr. Stephen Paget. He had been of opinion that infection came by the blood stream but the specimens which had been shown by Mr. Bucknall seemed to prove that the infection took place along the duct. He could not, however, understand why these cases were not of greater frequency if infection was dependent on the condition of the mouth. He suggested that the condition might be due to some toxin and compared it to the swelling of the gland which was sometimes produced by the administration of potassium iodide.—Mr. BUCKNALL and Dr. TEBBS replied.

MEDICAL SOCIETY OF LONDON.

Discussion on the Diagnostic Value of Leucocytosis.

A MEETING of this society was held on Oct. 24th, Mr. JOHN LANGTON, the President, being in the chair.

Dr. J. H. DRYSDALE introduced a discussion on the Diagnostic Value of Leucocytosis. It was only of recent years, he said, that blood counts had come into general use. Formerly the infrequency of the use of this method was only equalled by the imperfection of the interpretation of the results obtained. Now, the danger was that with the accumulation of many new facts observers might hasten to apply them with an imperfect knowledge of their limitations. Some attempt should be made to ascertain if possible the individual standard, as personal variations were often so wide as to equal pathological ones. In addition also observers should be on their guard against leucocytosis occurring under physiological conditions such as pregnancy, parturition, childhood, and digestion. In the newly-born there were 20,000 leucocytes per cubic millimetre. In pathological leucocytosis the increase might be due to any single variety or any combination of the varieties of leucocytes. Polymorphonuclear leucocytosis was found in many pyogenic infections, in certain specific fevers, in certain toxic states, and accompanying certain secondary anæmias, especially in post-hæmorrhagic anæmia, and also in prolonged cachexias. The term "leucocytosis" most commonly meant a polymorphic leucocytosis, but in every case a differential count was almost indispensable. The causes of leucocytosis might be grouped under inflammatory, toxic, cachectic, and anæmic (especially post-hæmorrhagic). The first, according to Ehrlich, was due to an attraction of the leucocytes into the blood stream. The bone marrow was a source of the polynuclear leucocytes and this was found increased in many cases. Leucocytosis was constituted by any increase in the number of leucocytes discovered after avoiding the physiological errors previously mentioned; 10,000 and certainly 15,000 per cubic millimetre were to be regarded as pathological. In the detection of appendicitis leucocytosis was of value but not in its diagnosis from pyosalpinx. Pus might be present without leucocytosis; above 15,000 indicated a severe sepsis. Progressive counts were of value as indicating the increase or decrease of severity and as admitting of delay when operation was in question. Results comparable with these were found in other inflammatory conditions, such as endocarditis and septic processes generally. Leucocytosis appeared early in pneumonia. Among the specific fevers some displayed the change but some did not. In tuberculous adenitis leucocytic changes were not a part of the disease. Eosinophilia was found in many diseases—e.g., in ankylostomiasis and in many skin diseases; at any rate, in the exacerbations of these diseases. Basophilia was only found in myelogenic leukæmia.

Dr. A. E. WRIGHT asked, Why were leucocytes always present in constant numbers in certain individuals? He did not think Ehrlich's theory of hæmotaxis could account for this. Why should the white cells be "attracted" from certain situations into the blood by some constituent of that fluid when the blood plasma was found in all situations? Experimentally leucocytosis could be produced in two ways: (1) by injecting certain irritating substances such as turpentine or camphor into the blood; and (2) by throwing into the blood the pabulum out of which leucocytes were made. In the latter case white cells were bred up to the limit of subsistence and no further; when there was no more nutriment there was no more increase. In estimating leucocytosis regard must be had to the possibility of the dilution of the blood, a factor which was too much neglected. Dr J. Lorrain Smith had drawn attention to this matter.

Mr. C. G. WATSON, referring to the varying dilutions of the blood, remarked that this would not account for the variation in the different kinds of leucocyte present. It was a diagnostic fact of value that in tuberculous peritonitis there should be no leucocytosis while in septic peritonitis it was very marked. He referred to two cases of tuberculous peritonitis in which there were only 7000 white cells per cubic millimetre. Leucocytosis was of great value in the differential diagnosis of suppurative conditions but it did not help in the differentiation of these pyogenic conditions from one another. What was required for the elucidation of this subject was a series of observations on cases of appendicitis in which the blood counts were recorded progressively from day to day from the very beginning. This would supply data upon which to decide when operation should be performed.

Mr. GEORGE E. GASK remarked that most observers believed that leucocytosis was of value in the diagnosis of deep-seated suppuration when taken with other symptoms and when the possible sources of error were eliminated, but it could not be regarded as in any way pathognomonic.

Dr. J. F. H. BROADBENT wished to emphasise the value of differential counts and the relative proportion of the polynuclear leucocytes present. The important phagocytic function of leucocytes must not be forgotten. A large number of leucocytes, and particularly of lymphocytes, were always found around a focus of inflammation.

Dr. DRYSDALE replied and criticised Dr. Wright's views on the cause of leucocytosis. Dr. Drysdale was of opinion that both a total and differential count should always be made.

OPHTHALMOLOGICAL SOCIETY.

Blood-vessels of the Optic Disc in Certain Mammals.—Bacteriology of Conjunctivitis.

A MEETING of this society was held on Oct. 20th, Mr. A. S. MORTON, Vice-President, being in the chair.

Mr. E. NETTLESHIP read notes on the Blood-vessels of the Optic Disc in Certain Mammals (18 species), including a few marsupials (three species) but no monkeys. The eyeballs were sent to him by Mr. F. E. Beddard, F.R.S., from the post-mortem room of the Zoological Gardens. The observations were based on microscopical examination of both transverse and longitudinal sections of the optic disc and contiguous part of the optic nerve. It was found that in many mammals the retina was almost entirely supplied by arteries derived from the choroidal system—cilio-retinal vessels—that reached the retina by passing round the sclero-choroidal border of the disc. Ophthalmoscopically this arrangement often (as, for instance, in the carnivora) caused an appearance somewhat like that of deep-seated glaucomatous cupping and such cupping had been stated by Lindsay Johnson to be present in these eyes. But no cupping was found in sections of any of the eyes examined microscopically by Mr. Nettleship, nor was the assumption of cupping necessary in order to account for the appearance. Another interesting observation was that even when the cilio-retinal vessels carried virtually the whole retinal supply the central artery was seldom, if ever, quite absent, though often reduced to a minute vessel entering the optic nerve close to the eye. In some species such a minute arteria centralis became much enlarged at the lamina cribrosa by tributaries from the choroid or sclerotic, the short trunk thus formed breaking up almost immediately in the disc for distribution to the retina; and ophthalmoscopic examination of such an eye would naturally lead to the erroneous conclusion that the supply was from a large arteria centralis as in man.—Mr. G. LINDSAY JOHNSON referred to 500 sketches which he had obtained from various animals, in delineating which he had examined as

many eyes of the same species as were available and alluded to the apparent dissimilarity between the appearance of the disc during life and microscopic sections made after death.

Dr. W. B. INGLIS POLLOCK (Glasgow) read a paper on the Bacteriology of Conjunctivitis, being a review and analysis of 204 cases of conjunctivitis in which a bacteriological examination had been made. There were 145 cases of acute muco-purulent conjunctivitis (including the acute contagious conjunctivitis of Weeks). Of these, 108 were due to the bacillus of Weeks, seven to the diplobacillus of Morax, one to the pneumococcus, two to the gonococcus, and six to the staphylococcus pyogenes aureus. There were three cases of mixed or superimposed conjunctivitis and 18 indefinite or negative results. In 20 cases of subacute conjunctivitis (Morax) the diplobacilli were found 14 times, the bacillus of Weeks once, and there were five indefinite or negative results. In nine cases of purulent conjunctivitis four were due to the gonococcus, three to the bacillus of Weeks, one to the pneumococcus, and one to mixed infection with bacillus subtilis. In ten cases of ophthalmia neonatorum gonococci were found eight times (once mingled with streptococcus pyogenes) and the pneumococcus once and one case was negative. One case of membranous conjunctivitis due to the staphylococcus pyogenes aureus and several other cases completed the series. The general symptomatology of the forms associated with the individual organisms was described. The absence of a capsule round the diplobacillus, as shown by ordinary staining methods, was noted. Upon only two occasions pure cultures of the bacillus of Weeks were obtained. They were on blood-serum agar and were of weak vitality. Several very mild cases of conjunctivitis due to this organism were mentioned, showing that if the bacillus of Weeks did not occur on the normal conjunctiva at least certain individuals showed some degree of natural immunity to it. The bacillus of Petit had not been observed in any cases. The importance of Gram's staining method where gonococci were suspected was insisted on and the pseudo-gonococcus of Axenfeld was shown in a lantern slide. The bacteriological examination of the conjunctiva in cases of phlyctenular ophthalmia only showed staphylococcus pyogenes aureus, albus, or the so-called xerosis bacillus. These organisms were innocuous (especially the latter) in the conjunctiva in almost all cases. Consequently it was necessary to accept the theory of an endogenous origin and the presumptive evidence of this had been brought much nearer by the recent work of Bruns who injected sterilised tubercle bacilli into the arteria' system and obtained nodules very like phlyctenulæ. —Dr. CECIL E. SHAW (Belfast) mentioned cases of conjunctivitis caused by bacillus coli and their specially obstinate nature.—Mr. N. BISHOP HARMAN referred to the varying toxicity of bacillus diphtheriæ. He also mentioned the facility of obtaining cultures by pricking the conjunctiva and collecting the bacilli *in situ* mixed with blood.

LIVERPOOL MEDICAL INSTITUTION.

Simple Extraction of Cataract.—Asepsis in Obstetrics.

A MEETING of this society was held on Oct. 20th, Dr. JAMES BARR, the President, being in the chair.

Mr. CHARLES G. LEE read a short paper on the Simple Extraction of Cataract by Teale's method. He briefly referred to the various incisions that from time to time had been adopted and said that all of these, being placed either behind or at the circumference of the cornea, rendered it almost imperative to excise a portion of the iris. If, therefore, it were deemed necessary to perform an iridectomy as part of the operation then the better plan was to do it some days or weeks before the extraction as this method, although it involved two sittings, made less demand upon the patient's self-control and enabled the operator to see clearly each step of the operation, since no blood collected in the anterior chamber, as happened when the iridectomy and the extraction were both done at the same time. The chief objection to this procedure lay in the two operations and consequently the danger from sepsis was doubled. Having in his private practice last year lost an eye from suppuration of the cornea after a preliminary iridectomy, Mr. Lee determined to try if the iridectomy might not be dispensed with as an essential part of the operation. He had himself frequently performed simple extraction, but owing to the incision being placed at the periphery of the cornea prolapse of the iris had too often occurred. Some 20 years ago he had seen Mr. T. Pridgin Teale extract cataracts without an iridectomy by means of an incision wholly in the corneal structure and almost midway between the centre of the pupil and the circumference of the cornea, so he determined to try this method. Two characteristic features of the operation were insisted upon—namely, the knife employed (Hartley's) and the site of the section. Details of the first eight cases which Mr. Lee had operated upon by this method were given, from which it appeared one patient obtained visual acuity of $\frac{6}{6}$, three obtained $\frac{6}{9}$, and none less than $\frac{6}{12}$. In no case was any difficulty experienced in carrying out the technique of the operation.—Dr. K. A. GROSSMANN said that he had performed simple extraction for many years and was well satisfied with the results obtained. He used a knife with a very narrow blade, as he considered the triangular-shaped knife too broad, for it hampered the freedom and delicacy of movement necessary in so critical an operation.—Mr. GEORGE E. WALKER described an operation which he had performed for upwards of 20 years, which aimed at the same result as that mentioned by Mr. Lee and which he considered easier of performance. The puncture and counter-puncture were made in the sclerotic and by a series of sawing movements the incision finished at a point midway between the centre of the pupil and the top of the cornea. In this operation prolapse of the iris, if it occurred, was seldom considerable and as a rule was easily reduced.—Mr. CHARLES H. B. SHEARS, Mr. R. J. HAMILTON, and Mr. RICHARD WILLIAMS also took part in the discussion.

Dr. W. MURRAY CAIRNS read a paper on the Practice of Asepsis in Obstetrics, in which he made a strong plea for the more careful management of labour. At the outset he differentiated between aseptic obstetrics and asepsis in obstetrics. The advantages and disadvantages attendant upon the use of aseptic indiarubber gloves in obstetrical work were discussed and the hope was expressed that a material more suitable for intra-uterine manipulation than indiarubber might be discovered. A form of obstetric bag adapted to modern aseptic requirements was described. Meddlesome manipulation in physiological labour was very strongly condemned. The use of lubricants was deprecated; if used at all they should be sterilised. Douching, antepartum and post-partum, in strictly normal cases was declared unnecessary. In all infective conditions douching, both ante-partum and post-partum, was considered necessary and it was recommended that in such cases it should always be antiseptic and administered by the practitioner.—Dr. E. T. DAVIES, Dr. LLEWELLYN A. MORGAN, Mr. ALEXANDER STOOKES, Dr. J. H. FINEGAN, Dr. T. B. GRIMSDALE, Dr. J. H. WILLETT, and Dr. NALINI H. BLAIR took part in the discussion.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Liverpool on Oct. 21st, Dr. W. J. Sinclair, the President, being in the chair.—Mr. E. Emrys Roberts (Liverpool) gave a lantern demonstration of the First Stage of Implantation of the Ovum of the Guinea-pig.—Dr. Arnold W. W. Lea (Manchester) detailed a case of Rupture of the Uterus which took place at the seventh month of the fourth pregnancy of a woman aged 24 years. She was admitted to the Maternity Hospital for sudden profuse bleeding due to placenta prævia. 20 hours after admission a de Ribes's bag was inserted into the cervix. Five hours later the pulse had gone up to 124. Dr. Lea arrived at the hospital shortly afterwards and found that the patient's condition was good. The bag was removed and under chloroform bipolar version was performed, the hand not being introduced into the uterus, and a macerated seven months' fœtus was readily extracted. The patient's pulse then became very rapid and her skin pallid. The placenta was easily expressed and the uterus appeared to contract well. A deep tear on the left side of the cervix was sutured. The pulse remained from 130 to 134 but the patient was quite comfortable when placed in bed. A quarter of a grain of morphine was given and also a rectal injection of saline solution with an ounce of brandy. Half an hour later she became suddenly blanched, her pulse failed completely, and she died in five minutes, obviously from internal hæmorrhage. There had been no bleeding per vaginam and the uterus appeared well contracted. A necropsy was made 12 hours after death; the peritoneal cavity contained nearly a pint of blood

which had escaped through a rent in the posterior layer of the left broad ligament. There was a lateral tear three inches in length in the lower uterine segment; this had led to the formation of a huge hæmatoma between the layers of the left broad ligament which had ruptured through a linear rent into the peritoneal cavity. The uterine muscle was pale, soft, and apparently degenerated and the placental site where the tear occurred was thinned. Regarding the cause of rupture Dr. Lea said there was a great probability that the patient had had syphilis, her previous children being born prematurely, and they were either dead or died shortly after birth. The rupture occurred at the placental site and there was no evidence of a retraction ring, the membranes being ruptured shortly before delivery was effected. He thought the rupture probably occurred spontaneously whilst the de Ribes's bag occupied the lower segment of the uterus as shown by the rise of pulse to 126. Extraction probably made the tear complete. The three factors in the causation were thus degeneration of muscle, probably syphilitic; low situation of the placenta; and aggravation of rupture by version and extraction. The tear was at first incomplete, leading to the formation of a hæmatoma of the broad ligament. Sudden rupture of the posterior layer of the broad ligament permitted free bleeding into the cœlom and death followed. Discussing the symptoms of this form of rupture Dr. Lea remarked that they were often obscure. In his case there was an absence of all pain and of external bleeding, whilst the uterus appeared by abdominal examination to be contracted firmly. The fœtus lay high up but not more so than normal. In short, the sole characteristic was increase of pulse-rate and even this, owing to the previous hæmorrhage, had not had sufficient stress laid upon it. Had the tear been recognised immediately after delivery Dr. Lea said he considered the proper treatment would have been to pack with gauze.—Dr. D. Lloyd Roberts (Manchester), in commenting on the case, thought that everything possible had been done.—Dr. W. Walter (Manchester) thought the case illustrated the risk attendant on the use of de Ribes's bag. He had known of two instances in which the bag had disappeared entirely within the uterus. It was important when employing it to be quite certain as to the quantity of water pumped into it.—Dr. W. K. Walls (Manchester) said his experience embraced two similar cases and he considered that the rupture was due to the delivery and not to the bag.—The President thought it possible that the tear might have occurred during the introduction of the bag.—Dr. Lea briefly replied.—Dr. Walls reported a case in which a mass of multiple fibro-myomata of the uterus occupied a large ventral hernia. The patient was married, aged 44 years, and the menopause occurred at the age of 35 years; there had been no pregnancies. There was a history of three operations five years previously, presumably laparotomy. The large ventral hernia contained a solid mass and also fluid; the skin was ulcerated in places; behind the hernia a solid mass extended from the pubes to the umbilicus. The cervix uteri was drawn up out of reach. At the operation the sac contained about a dozen fibroids, varying in size from that of a hen's egg to that of an orange. Supravaginal hysterectomy was performed and a good recovery ensued. The mass of tumours (which were shown) weighed 11 pounds.—The case was discussed by Dr. Lloyd Roberts and Dr. T. B. Grimsdale and Dr. Walls replied.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Oct. 21st, the President, Dr. J. S. Risien Russell, being in the chair.—Dr. W. Langdon Brown showed a man, aged 25 years, who three months ago had slight pain in the thighs and nine weeks ago noticed that one leg was swollen but this swelling soon subsided. Nine days ago the other leg swelled. Five days ago the scrotum swelled but was not swollen now. His liver and spleen were enlarged moderately and the heart was displaced upwards. He was anæmic, the hæmoglobin being 50 per cent. of the normal. The axillary glands were moderately enlarged, as were also the left supraclavicular glands. The superficial abdominal veins were enlarged; some were thrombosed and the thrombosis was extending. He had lost two stones in weight before his admission to hospital but was now improving under rest in bed and increasing doses of arsenic. There had been two slight rises of temperature. Dr. Langdon Brown diagnosed Hodgkin's disease.—A discussion followed, some members thinking malignant disease about the pancreas to be more probable.—Dr. David Ross again showed his patient with Diabetes Insipidus in order to point out the improvement which had taken place under the administration of strychnine and ergot. He then read notes of a case of Vagina Septa in a parturient woman who had a normal labour; in the vagina there existed a septum vertically antero-posterior, the left passage not passing to an os uteri while the right passed to a single normal uterus.—Dr. Langdon Brown also showed a carman, aged 26 years, who after exposure to cold rain had numbed hands. When shown four weeks after the exposure the hands were swollen, red, cold, and clammy, in which conditions the toes were now sharing. He had had three other similar attacks since he was 14 years of age but these had passed off in three or four days. Local asphyxia of Raynaud was diagnosed, though erythromelalgia was considered but its presence was negatived.

Reviews and Notices of Books.

La Gastro-entérostomie, Histoire Générale, Méthodes Opératoires, les Cent Cinquante Premières Opérations de la Clinique Chirurgicale d'Angers. (*Gastro-enterostomy, its History and Operative Methods; the first 150 Operations in the Surgical Clinic at Angers.*) By A. MONPROFIT, Professor of the Surgical Clinic at the School of Medicine, Surgeon to the Hôtel Dieu, Angers. With 300 Illustrations in the text. Paris: Institut International de Bibliographie Scientifique. 1903. Pp. 376. Price 15 francs.

GASTRO-ENTEROSTOMY is at the present time the most important operation performed on the stomach and yet it is but of recent introduction. There seems to be no doubt that it was first performed on Sept. 28th, 1881. A man, 38 years of age, was admitted into Professor Billroth's clinic in Vienna, suffering from cancer of the stomach. The symptoms were of some six months' duration and the patient had at first applied to the medical clinic of Professor Bamberger, whence he had been transferred to the surgeons, as it was hoped that it might be possible to remove the growth completely. With this intention Professor Wölfler opened the abdomen and a mass was discovered involving the pylorus. It was moveable but further examination showed that the growth had spread to the small omentum and the head of the pancreas. It was obvious that no excision of the growth was practicable and Professor Wölfler was about to close the abdomen when Nicoladoni, who was present, suggested that it might be possible to perform an anastomosis between the stomach and the small intestine. Professor Wölfler immediately saw the wisdom of the suggestion and performed an anterior gastro-enterostomy. The patient felt better immediately after the operation and the vomiting ceased. A week later he could take solid food and in a few weeks he had recovered completely from the operation. This was the first occasion on which the operation of gastro-enterostomy was performed and the successful result soon led to other attempts. Professor Billroth operated a few days later but his patient died on the tenth day. In 1882 the operation was performed only three times and in 1883 only twice. After this the frequency of the performance of the operation increased but it was not till 1886 that any case occurred in this country and not till 1889 in France.

At the present time the operation is very frequently performed, and with success, for a large number of morbid conditions. It has been recommended in simple ulcer of the stomach, both for the pain and the hæmorrhage, for fibrous stricture of the pylorus, for chronic gastritis with or without adhesions, for dilatation of the stomach, for hour-glass stomach, for stricture and for ulcer of the duodenum, and for malignant disease of the stomach or duodenum. In the performance of the operation many methods have been devised: the intestine has been attached to the anterior or to

the posterior wall of the stomach; sometimes a single union has been made; sometimes a Y-shaped junction, and sometimes a "double implantation" has been performed.

It will be evident that an operation with so many indications and of such great importance deserves well a monograph such as that now before us. We can say after a careful and thorough examination of the work that Professor Monprofit has produced a book both of great interest and of real value. It seems to us to be almost complete; it includes a history of the operation, all the earlier cases being given in detail. Then follows an account of the general technique. The various methods are considered and sufficiently described and the large variety already introduced must give rise to a feeling of wonder at the ingenuity displayed. The indications for the operation are discussed in detail and the results obtained are analysed. The author gives an account of 150 cases of gastro-enterostomy which have been performed in the surgical clinic of Angers. The book is freely illustrated with diagrams and a good index is added. It is customary to speak of German thoroughness in literary work but it is difficult to imagine a more complete and exhaustive treatise on gastro-enterostomy than this which Professor Monprofit has written. We accord it the heartiest welcome.

Atlas und Grundriss der Bacteriologie und Lehrbuch der Speziellen Bacteriologischen Diagnostik. (Atlas and Elements of Bacteriology and Manual of Special Bacteriological Diagnosis.) Part I., Atlas; Part II., Text. By Professor Dr. K. B. LEHMANN, Director of the Hygienic Institute at Würzburg; and Privat-docent R. O. NEUMANN, M.D., Ph.D., of the Hygienic Institute of the City of Hamburg. Third enlarged and revised edition. Munich: J. F. Lehmann. 1904. Part I., 74 tables; Part II., pp. xvi.–623. Price 16 marks both volumes (strongly bound).

THIS work has reached its third edition and the single volume, containing both atlas and text, which formed the first edition of 1896 has grown into two, each of which is larger than the original. Even with this increase of space it has been necessary to print the less important portions of the text in smaller type. Together with this growth a change has necessarily taken place in the character of the book which, originally an atlas with descriptive letterpress, has now become a text-book of bacteriology illustrated by its accompanying atlas. The leading idea of the book, that it should especially serve for the differentiation and determination of micro-organisms, still, however, remains the same though the descriptions given are now so full that they leave little to be desired whether they are regarded from the point of view of the pathologist or from that of the systematic bacteriologist. For the scientific way in which the information is arranged we have nothing but praise and it is unnecessary at this stage of the book's existence to discuss the excellence of the original drawings from which the plates are reproduced or the admirable character of the reproductions. In this new edition additions have been made to each section of the book, to the atlas, to the general bacteriology, and also to the special and technical portions. This latter part has especially been greatly enlarged and is rich in formulæ for a large number of culture media. New or largely rewritten sections deal with immunity and with the organisms found in dysentery, paratyphoid fever, cerebro-spinal meningitis, whooping-cough, and influenza. Room, too, is found for a description of the non-pathogenic spore-bearing bacilli, the bacterial plant diseases, and the invisible parasites which pass through bacterial filters. Probably, however, to most physicians the addition of the greatest importance will be the three plates and the short section in the text which deal with the malarial parasite and its allies. At the end of the volume of text is a folded sheet giving in tabular form the chief characters of a large number of important organisms based on the personal observations of the authors. Each volume has its own index.

The original edition was translated into English and we hope that this last edition will also be published in our language. It is a book which should be found in every bacteriological laboratory. The two volumes are bound in cloth in a much more substantial manner than is usual with foreign books and the heavy plates of the atlas seem to be secured carefully.

Acid Auto-intoxications: being Part IV. of Several Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Professor Dr. CARL VON NOORDEN, Physician in Chief to the City Hospital, Frankfort-on-the-Main; and Dr. MOHR. Bristol: John Wright and Co. 1904. Pp. 80. Price 3s. net.

IN this little book the authors render a practical and fitting apology for the neglect and discredit which the work of French investigators so long received in Germany. They admit that the researches of Bouchard and his pupils on auto-intoxication were treated with cold disdain until a number of toxic products of metabolism had been isolated and their effects carefully studied. It is now felt that the time has come when doubts may be thrown aside and the subject treated with the painstaking care for which we are accustomed to look to German writers. In the little volume before us the authors deal with the auto-intoxication with acid products of metabolism and necessarily have much to say with reference to diabetic coma. The relations between β-oxybutyric acid, diacetic acid, and acetone are clearly expressed, while it is maintained that an increase of acetone in the urine is due solely to the removal of carbohydrates from the food, while it is favoured by an increase in the amount of butter. They maintain that acetone and kindred bodies are not formed in the gastro-intestinal tract but are excreted from the blood; beyond this, however, they do not commit themselves to a positive statement. They say the arguments point to an intracellular process and that possibly the liver has something to do with the formation of acetone bodies. After consideration of pathological non-diabetic acetonurias and diabetic acidosis they pass on to therapeutic considerations which will possess greater interest for practitioners. In spite of the former reference to the pernicious effects of butter they recommend its administration in moderate amounts and speak strongly of the importance of the administration of carbohydrates so soon as there are indications of acidosis. This is, we believe, thoroughly in accord with modern English practice, though formerly it was customary to fear any increase of glycosuria that might result. Concerning the use of alkalies and the treatment of diabetic coma we must refer our readers to this little book which we have perused with considerable interest.

LIBRARY TABLE.

Syphilis and Gonorrhœa. By C. F. MARSHALL, M.D. Vict., F.R.C.S. Eng., Senior Assistant Surgeon to the Hospital for Diseases of the Skin, Blackfriars, London. London and New York: Rebman, Limited. 1904. Pp. 267. Price 8s. net.—In this book the author gives an account of syphilis and gonorrhœa. For this purpose he has consulted the standard works and a large number of original articles which have appeared during recent years. The more important of these are mentioned as references. He has added critical remarks and conclusions derived from his own professional experience. He has omitted special reference to the heart, lung, kidney, and alimentary canal, because syphilis of these organs presents no very characteristic features. In the chapter on the Pathology of Syphilis he says that,

although it is almost certain that syphilis is a microbial disease, the investigations hitherto published cannot be regarded as conclusive and it remains for further research to clear up the matter. With regard to primary venereal sores which are followed by syphilis the author says that these are so variable that it is often impossible to foretell from the nature of the primary lesion whether syphilis will follow or not. The pages on the treatment of syphilitic diseases of the nervous system, containing chiefly the views of Sir William Gowers, are excellent. In the preparation of the chapter on Syphilitic Diseases of the Eye and its Appendages Mr. H. E. Juler's Harveian Lectures have been largely drawn on, but the author does not agree with Mr. Juler in thinking that treatment of chancre of the eyelid should not be commenced till the diagnosis is confirmed by the development of secondary syphilis. The chapter on Parasyphilis and that on Reinfection and Syphilis *d'emblée* are interesting ones. In writing of the period of time for the sanction of marriage the author thinks the best plan is to follow the practice of Mr. J. Hutchinson, to allow marriage after two years in the absence of symptoms but to inform the patient of the possibilities which may occur. The author's observations on Syphilis and Life Assurance are well worthy of study. The portion of the volume devoted to the treatment of syphilis is distinctly good but it might have been made even more useful by the inclusion of more formulæ. Part II. deals with gonorrhœa and extends to 66 pages. Dr. Marshall does not like treatment by medicated bougies. He prefers salol in doses of from five to ten grains two or three times a day for the internal treatment. In writing of drugs in gonorrhœa he says: "The majority of the new preparations do not appear to fulfil the claims made for them." "As regards local treatment I think injections of protargol followed by astringents, such as chloride or acetate of zinc, the best" in the male. In woman he prefers the treatment by pessaries and points out that gelatine-glycerine is the best basis and that iodine, from 1 to 2 per cent., and ichthyol, from 2 to 5 per cent., give the best results. In the final chapter, on Venereal Disease in the Army and Navy, he writes: "If the State expects the army to protect the country it is the duty of the State to protect the army against disease of any kind, whether of venereal origin or not." The book is well arranged, is easy of reference, and should be of considerable use to the busy practitioner.

The Closure of Laparotomy Wounds as Practised in Germany and Austria, including Detailed Methods and Views communicated by over 50 Leading Surgeons. Edited and translated by WALTER H. SWAFFIELD, M.D., F.R.C.S. Edin., Fellow of the Obstetrical Society of London. London: J. and A. Churchill. 1904. Pp. 72. Price 2*s.* 6*d.*—Dr. Swaffield has collected the opinions of 55 German and Austrian surgeons and gynæcologists on the question of the best method of uniting the abdominal wall after a laparotomy. The point of dispute is whether the abdominal wall should be stitched up by a single set of "through-and-through" sutures or whether each layer should be sutured separately. The opinions of so many eminent operators are certainly valuable, and it is of interest to see that the majority distinctly favour the method of applying separate sets of sutures to the several layers of tissue. 11 were in favour of simple suture and 44 preferred suturing in layers.

The Gold Coast: its Wealth and Health. By FRANCIS HART, F.A.S., M.A.I.M.E. London: Ereckson's. 1904. Pp. 280. Price 5*s.* net.—This is a handbook to the colony which will prove very useful to those who may be contemplating a residence on the Gold Coast. The book is chiefly devoted to a description of the mining industry and in this section the author has been greatly aided by the late Mr. Percy Tarbutt and by Mr. G. J. Bridges. The secretary of the African Trade Section of the Liverpool Chamber of Commerce has placed at the author's disposal the reports bearing on the trade and commerce of the Gold Coast and Sir Patrick Manson has given the author permission to reproduce from his book on tropical diseases the remedial measures to be adopted in cases of malaria and black-water fever. Mr. Hart deals in turn with the geography, history, the physical features, the mining industry, the labour supply, transport, industrial developments, imports and exports, how to reach the coast, administration, institutions and social life, and with life and health. Chapter XVI. is devoted to the last-named considerations. In it will be found useful information about mosquitoes and malaria and about several tropical diseases; there are also useful directions on sanitation and the preservation of health. An excellent map of the Gold Coast is prefixed and appendices contain useful hints as to the medical and health equipments for West Africa.

New Inventions.

IMPROVED MACKINTOSH SHEET.

THE chief disadvantage of the present mackintosh used for sick beds, no matter how carefully the sheet be placed, is that it soon becomes wrinkled under patients or displaced and it is the great desire of all patients to have them removed. No means for securing the mackintosh to the bed has hitherto completely succeeded in attaining its object, but the following device (the idea of a practical nurse) seems to meet entirely all difficulties by firmly uniting the mattress and mackintosh. The new mackintosh is provided with flaps

at its edges and ends, the said flaps being appropriately shaped and provided with clasps or other fastening devices at short intervals, and the mattress is furnished with corresponding clasps or devices, so that the mackintosh can be fastened to the mattress and also fastened over itself, it being kept in place as desired. The advantage the new fixing device will have over the present mackintosh is that it will not get displaced. It will keep the mackintosh from becoming wrinkled under patients and prevent the consequent discomfort. It will thus also prove a preventive of bed-sores and the like and in cases of bed-ridden and helpless patients prove indispensable. Delirious patients will be unable to throw off the mackintosh, hence the mattress will be protected from all discharges. The new device will prove a great advantage in operating rooms by keeping mackintoshes firmly in place on the table. The manufacturers are Messrs. Arnold and Sons of West Smithfield, London.

Burghmuir Hospital, Perth. MARGARET T. STEWART.

PRECAUTIONS AGAINST CHOLERA IN RUSSIA.—Professor Homalæya has been lecturing in Baku and Saratoff on the necessity of maintaining the struggle against the probably hidden forces of cholera all through the winter, warning his hearers that the bacteria of cholera have the quality of retaining their vitality during long periods of cold weather and of initiating an epidemic in the spring without the assistance of any infection from distant districts. "I am profoundly convinced," he concluded, "that it is necessary to continue the struggle with the epidemic the whole winter through without intermission even to the smallest degree."

THE LANCET.

LONDON: SATURDAY, OCTOBER 29, 1904.

Actinomycosis.

ACTINOMYCOSIS is no new disease. In most old works on veterinary surgery are to be found descriptions of cases in which the jaws of cattle are affected with a great enlargement. Under various names this disease was well known at a very early date and in the year 1826 a careful description was given by LEBLANC of the affection as involving the jaws of cattle; he described it as "osteo-sarcoma" because it caused enlargement of the mandible with formation of much new bone. The tongue of oxen is also sometimes involved and from its firmness and immobility it has received the name of "wooden tongue." In 1845 LANGENBECK noticed the yellow actinomycotic granules in pus from a case of caries of the spine in a human being and in 1848 LEBERT described and figured the granules found in the pus from a thoracic abscess. In 1868 RIVOLTA noticed the yellow granules in the contents of the swollen jaw of an ox. In 1870 HAHN described the same appearance in a case of "wooden tongue." In 1876 BOLLINGER made it clear that the "osteo-sarcoma" of the jaws of cattle was the effect of the presence of a fungus and HARZ, the botanist, named it the ray fungus or actinomyces from its shape. In 1878 ISRAEL described the disease as occurring in man and PONFICK in 1879 showed that the disease affecting cattle and the disease affecting man are identical. Six years later it was proved by BOSTRÖM that the organism belongs to the cladotrichæ. The manifestations of the disease in many respects closely resemble tuberculous and syphilitic lesions and it is certain that many cases of the disease have been diagnosed as tuberculous or syphilitic in nature; indeed it is probable that even now, when the condition is widely known, many cases are still wrongly diagnosed as due to the tubercle bacillus or to syphilis. In those hospitals where the pus from all abscesses is systematically examined bacteriologically the disease is found to occur much more frequently than in those institutions where a diagnosis of actinomycosis is only made when the signs are unmistakeable or the characteristic yellow granules force themselves into view. In the present number of THE LANCET we print reports of five cases of actinomycosis. Three occurred in members of the same family under the care of Dr. ROBERT KNOX and the other two occurred in the Victoria Hospital for Children under the care of Dr. WALTER CARR, Mr. RAYMOND JOHNSON, and Mr. D'ARCY POWER. In all these cases the value of an early recognition of the disease was apparent.

The mode by which the body becomes infected is important, especially from the point of view of prophylaxis. In cattle, in a very large majority of the cases, the jaw or tongue is involved, and even when the disease attacks man in more than 50 per cent. of the cases the primary seat of the disease is the mouth and its neighbourhood. From these facts we are justified in concluding that the organism commonly enters the body by means of food or something taken in by the mouth. We are not aware that the fungus has ever been found growing on plants but when inoculated into a grain it is found that the organism grows as the plant develops, so that the plant is involved throughout. It is evident that if an ox were fed with such infected material it would be easy for the lining membrane of the mouth to be infected with the organism by a piece of the stalk or a barb of a spikelet piercing the mucous membrane. Those grains provided with barbs are clearly more likely to lead to infection if that be the mode by which infection is produced, and barley might reasonably be especially suspected. Man is probably infected in many cases by chewing pieces of straw or grass and in one case chewing malt appeared to be the cause. It is certain that about 75 per cent. of all the patients have to do with cereals, for example, farm labourers and grooms. The organism may possibly find entrance through a carious tooth or an alveolus and thus make its way into the bone. MÜLLER records a case where a woman ran a splinter into her hand; two years later a swelling formed at the scar of the former injury and it proved to be actinomycotic and in the centre of the mass was found a minute piece of wood. In another case a blow from a stick was followed by the formation of a swelling at the seat of injury and this was also actinomycotic. In VON PARTSCH'S case inoculation appeared to be derived from surgical instruments, for actinomycosis developed in the scar of an operation. KOPFSTEIN reported a case where a woman cut her hand and a few days later she did some binding of corn and thus infected the hand, for at the site of the cut the actinomycotic tumour developed. There is some evidence that the disease may be transferred from animals to man, for MURPHY has recorded a case where a woman had a pet dog which died with a large swelling of the lower jaw and she herself subsequently had actinomycosis of the lower jaw. In this case it is obvious that it is by no means certain that the affection of the jaw of the dog was actinomycosis but it is probable. The disease has been supposed to be communicable by kissing on the strength of a case described by BARACZ. A man had a swelling on the lower jaw appearing after the extraction of a tooth. This swelling was incised and the pus when examined was discovered to contain the actinomyces. A little latter it was found that the man's sweetheart was suffering from an alveolar abscess the pus of which showed the presence of the fungus. It must be acknowledged that the evidence here is not conclusive.

We have cited sufficient cases to show that the disease is readily inoculable both into cattle and into the human body, but cattle are not the only lower animals which are liable to be affected by the disease. It has been found in horses and pigs, in sheep, and in the elephant, but no case has been described as occurring in any of the carnivora, if we except the case of the dog above-mentioned. As seen in man the disease appears to affect almost every organ of the body. The mouth, the cheeks, and the neck, as we have already stated, are involved primarily in a majority of the cases; next in frequency come the viscera of the abdomen and then the lungs

and the pleura. The brain has been found diseased, probably generally by metastasis through the blood stream, but it may be involved by extension of the disease from the cranial bones. Even the appendix vermiformis has been found affected. In many cases actinomycosis tends to lead to a fatal issue, especially when the lungs become involved, for the diagnosis is often not made at an early stage of the malady, so that the appropriate curative measures are not adopted as soon as is desirable. The therapeutic indications are twofold. In the first place, surgery can remove mechanically the granulomatous tissue and its contained fungus, and in situations as in the skin, where this treatment is available, it forms the most rapid means of removing the disease. In 1885 THOMASSEN reported that iodide of potassium had a curative influence on actinomycosis and it is not improbable that in the days when the fact that an ulcer was cured by potassium iodide was taken as an indication of its syphilitic nature many of these cases were diagnosed as syphilitic for that very reason. All cases, however, are not equally amenable to the influence of the iodide but it seems clear that the earlier the treatment is commenced the more likely is it to prove efficacious. It is, moreover, of great importance that the drug should be given in sufficient doses. The ordinary doses that suffice in tertiary syphilitic manifestations are of very little value in actinomycosis. Most cases show little improvement under any dose less than 20 grains of the salt three times a day and those that do exhibit amelioration are mostly of very recent origin. In some instances a drachm of the iodide three times a day is required and French authors advise even larger doses, such as two drachms of potassium iodide, three times a day. Such enormous doses are, however, not well borne unless great care is taken to give the salt dissolved in a large quantity of water so that the solution is sufficiently dilute not to irritate the stomach or the intestine. When we consider, further, the great depression produced by potassium salts we cannot doubt that it would probably be better to substitute the iodide of sodium. The importance of actinomycosis lies chiefly in the fact that many medical men are not alive to the likelihood of its occurrence and thus the opportunity for the early diagnosis and treatment of the disease is lost. We would also urge the more systematic microscopic examination of pus from all abscesses. The actinomyces is not easy to find even when it is specially searched for and it is very difficult to obtain cultures; these facts certainly increase the arduousness of diagnosis in many cases but the value of recognising the disease early more than compensates for any labour thus incurred.

The Evil of Immoderation.

THE most trifling of things may sometimes occasion very weighty observations. This is a truth that has been supported by more instances than the classical case of the apple, NEWTON, and the laws of gravitation. In the same way now and then a book which is avowedly light and guiltless of "purpose" may nevertheless be the foundation of serious reflection in the minds of those who read it. We are very much inclined to regard in this light Mr. H. G. WELLS's recent novel, "The Food of the Gods and How it Came to Earth." We do not suppose that the author had for a moment the intention of putting this work forward as a "novel with a purpose." Certainly it is entirely free from the depressing platitudes and ill-conditioned philosophy which commonly entangle stories contained in books which answer to that description. Nor, we imagine, is it seriously to be regarded as a satire upon the vogue of infant foods and of patent medicines. Undoubtedly, too, the quiet sarcasm which is levelled at the head of the man of science by the delightful caricatures is not meant to be taken as the essential portion of Mr. WELLS's work. It is intended, in fact, if we read it aright, merely to amuse, and to amuse in particular those who are acquainted with the pursuits, the manners, and the speech of men of science. That it is eminently successful in its endeavour, at any rate in our own case, we heartily admit and we do not hesitate to invite others to share in the opportunity presented by Mr. WELLS of laughing at once at and with their friends.

It would be obviously unfair as well as out of place to give here any detailed outline of "The Food of the Gods," but we must just briefly indicate its central idea in order to justify the moral that, as we have hinted, we propose to attach to it. The two scientific gentlemen, then, Mr. BENSINGTON and Professor REDWOOD, obtain on logical and scientific principles an article of food which whenever it is taken and assimilated produces growth. There is nothing more amusing or more finely satirical in the book than the account in the early pages of Professor REDWOOD'S scientific method and of the inspiration and enthusiasm of Mr. BENSINGTON. The rest of the book deals with the results which the food produces. We need not indicate to those who are familiar with Mr. WELLS'S powers of imagination and of description the extraordinary effects that accrue when gigantic wasps and rats infest a countryside, where an over-stimulated vegetation produces creepers that grow visibly and choke the inmates from their cottages. The climax comes with the advent of human beings who have partaken of the food and the trials of the giants give Mr. WELLS an opportunity of introducing into his grotesque picture a shade that is almost pathetic. In this final portion, where the normal race is contrasted with the products of the food, there is inevitably a strong reminiscence of GULLIVER among the Liliputians.

Where, we may now ask, does the moral, intended or not intended, come in? It comes with the idea of excess that this novel inevitably forces upon the reader. If Mr. WELLS had desired to preach to an intelligent audience upon the evil of immoderation he could have done no better than put in their hands "The Food of the Gods." It stands for a pure illustration of the fatal results of neglecting the injunction "*in medio tutissimus ibis*." There is no other harmful quality about the results of the food save its sheer inability to be kept within bounds. The growth produced is proper and on the lines of natural development. The body in all its parts and functions grows bigger and stronger. The mind, we are led to imagine, has a corresponding development. Yet for natural development to go on to an extent that is in present circumstances unnatural has the most distracting consequences.

The takers of the food, be they animal or vegetable, so far outpace their contemporaries that the rest of the world is as unfitted for them as would Pennsylvania have been for the first settlers had WILLIAM PENN gone inland on a 40 h.p. Mercedes car. The result is conflict. Mr. WELLS is too wise to forecast the outcome of this conflict, the struggle inevitable between those who wish things to remain as they are and those whose imagination is ever in advance of events. Yet he writes enough to indicate that victory is where in the long run it always will be—with those who are in advance, not merely abreast, of their times. We have thus dragged in another moral—not to rest content. But we must finish as we began by entirely acquitting Mr. WELLS of any moral purpose. Nor do we think that this is anything but a compliment to a novelist. If novels have a moral purpose, and the best of them have, it must be as it were by accident, and the moral must be conveyed in the natural speeches, actions, and destinies of the different characters, as is the case with those fine ornaments of English literature, the books of FIELDING and of THACKERAY.

Medical and Dental Limited Companies.

THE return moved for by Sir JOHN BATTY TUKE, M.P., showing the "number and names of companies registered under the Companies Act, 1862, in England and Wales, Scotland, and Ireland for the special purposes of carrying on medical and dental practices," has at last been printed and issued, and the first impression which it produces is one of astonishment at its manifest incompleteness. It mentions only 15 English companies registered "for the specific purpose of carrying on medical practice" and four, which are presumably branches of one concern (Macdonald's Dental and Medical Company), registered for the purpose of carrying on medical *and* dental practice. It mentions 65 English, three Scottish, and 22 Irish companies registered for carrying on dental practice, but purely "medical" companies appear to exist only in England. Of the 15 enumerated there are some of a perfectly legitimate character which have availed themselves of the provisions of the Companies Acts for reasons of finance or of organisation and against which nothing can be alleged. Of such are the Bolingbroke Hospital on Wandsworth Common, the Victoria Eye and Ear Hospital at Hereford, and, presumably, the Hampstead General Hospital and the Hospital for Epilepsy and Paralysis in Maida Vale. Others, judging of them only from their titles, are of doubtful character, while others, again, would appear to have been established for the simple purpose of preying upon the credulity of the ignorant. Of the dental companies a few are probably manufacturers of artificial teeth and of dentists' materials and are not really engaged in the treatment of patients, while a few are perhaps the legitimate expansions of private or family practices, but it is probable that the majority are based upon a desire to evade the Dentists Acts by the employment of unqualified assistants. We heartily congratulate our Scottish fellow subjects on the fact that their national shrewdness appears almost entirely to have preserved them from the inroads which persons of this class have made into England and Ireland. It is proverbially difficult to obtain the breeks of a Highlander and it is, we trust, equally difficult to obtain his money as a reward for the malpractices of inferior dentistry.

The whole subject of registered companies formed to carry on medical or dental practice has for a long period engaged the attention of the General Medical Council; and Sir JOHN BATTY TUKE, both as a member of that Council and as a Member of the House of Commons, has done good service by his endeavours to check a great and manifestly growing evil. The ingenuity of some quack long ago found out that it was possible to evade the provisions of the Medical Acts which render it illegal for an unqualified person to assume any title implying the possession of a qualification. A rascal who had been fined for this offence, or who desired to commit it with impunity, had only to register his business as a company and to obtain six other persons, his children or servants, to join with him as nominal shareholders in order to become entitled to call his company anything he pleased and to accept from it any title which it might think expedient to bestow. By the adoption of this ingenious device, quacks of the most infamous character were enabled to set the law at defiance; and advertising dentists were enabled to flood the country with half-educated and incompetent assistants who would have been precluded from engaging in practice independently or in their own names. Under cover of these arrangements many kinds of swindling were successfully conducted, and the credulous were plundered of large sums of money alike for worthless medicines and for defective and badly fitted teeth. The presumed intentions of the legislature were openly set at nought and the only relief to the picture was afforded by the circumstance that the "companies" were not always able to enforce payment of their claims for "professional" services. As a rule, however, the victims paid more or less reluctantly and were probably often too much ashamed of their own credulity to wish to proclaim it in a court of law. Their private growls, supposing them to be uttered, would be effectively drowned beneath widespread and mendacious advertisements; some of them of such a kind as to induce large sections of the public to believe that "America" could claim some sort of pre-eminence in all matters connected with the care and the treatment of the teeth. It was useless to point out that the education of American dentists was of so defective and imperfect a character that the General Medical Council had even been obliged to withdraw recognition from some of the very few American dental degrees or qualifications to which it had originally been granted.

We need hardly say that, as public affairs are conducted in England, a measure which had no other object than to preserve private individuals from being injured in health and pocket was not likely to receive any sympathy from professional politicians whose lives are mainly spent in endeavours to excite the ignorant by a parade of imaginary grievances. It thus naturally befell that a Bill directed against the evils to which we have referred and intended to bring sham and "one-man" professedly medical or dental companies under the control and operation of reasonable law had no chance of being safely steered through the shoals of Parliamentary indifference to the real welfare of the

constituencies. The time devoted to ignorant and foolish chatter about beri-beri among the Chinese labourers in the Transvaal would have sufficed to carry the necessary amendments to the Companies Acts, but this time could not, of course, be spared for any question so unimportant as that of the protection of merely English men and women. Sir JOHN BATTY TUKE, nevertheless, intends to return to the attack in future sessions; and, as one means of calling attention to the extent of the evil to be remedied, he moved for the return which we have already described, and which, as we have said above, contains the names and addresses of only 15 English "medical" companies, some of them of a perfectly legitimate character. It was only issued at the beginning of the present month, and a popular magazine of the same date now before us contains advertisements of so-called remedies or medical appliances from no less than 23 "companies," none of which are included in the official list and all of which promise to effect the cure of troublesome or dangerous maladies by methods unknown to scientific therapeutics. We will not give them an additional advertisement by naming them, and it may perhaps be said that they do not so much profess to "carry on medical practice" as merely to sell secret remedies the efficacy of which is independent of the individuality of the patient and which are calculated to cure his "disease." But they all in some way introduce either the word "medical" or some word or phrase which implies the possession of medical knowledge as the basis of their pretensions. If Parliament should ever really desire to protect the public against the snares laid by a combination of ignorance with dishonesty it will be necessary to frame an amendment of the Companies Act in such a manner that its provisions cannot be evaded by merely verbal ingenuity, and that no "registration" for any medical purpose, or for the sale of any professed remedy, shall be permitted to any person who would not be qualified to practise medicine independently of such registration. The evils of the present system are two in number. In the first place, it is possible for seven ignorant persons to become a collective medical practitioner, whose ignorance is at liberty to work unlimited mischief. In the second place, any scamp who has spent a few hundred pounds in advertising a worthless "remedy" for any common disorder has the opportunity, when his own resources are exhausted, of starting a "company" and of thus obtaining sufficient money to carry on the game until it becomes profitable. We are perfectly well acquainted with the "non olet" of VESPASIAN but we cannot altogether repress a feeling of surprise with reference to the magazine to which we have referred. It is to us inconceivable by what course of reasoning the members of a wealthy firm, presumably honest men in their private capacities, can consent to hire out the pages of their journal for the monthly propagation of statements which they must perfectly well know to be absolutely false in themselves and to be in a very high degree dangerous or injurious to those who are duped by them.

HOSPITAL SATURDAY AND SUNDAY AT FALMOUTH.—The amount collected at the recent Hospital Saturday and Sunday at Falmouth was £92, being the largest sum hitherto received.

Annotations.

"Ne quid nimis."

THE DEWSBURY (SMALL-POX PREVENTION) ORDER, 1904.

As we predicted in one of our leading articles last week, the Local Government Board has taken decisive action in the matter of small-pox at Dewsbury, and although it has evidently been unable, owing to insufficient legal authority, to transfer the administration of vaccination to the West Riding county council, it has done the next best thing by imposing such administration upon the corporation of Dewsbury. As our readers are aware, the guardians of the Dewsbury union persistently refused to aid the administration of vaccination by opening stations at which vaccination and revaccination could be performed expeditiously, conveniently, and economically. In consequence, therefore, of this obstructive action the Local Government Board, by virtue of the powers which it possesses under the provisions of sections 130 and 134 of the Public Health Act, 1872, and of the Public Health Act, 1896, has issued special regulations for the prevention of small-pox. Under these regulations the medical officer of health is entitled to vaccinate or to revaccinate any person who is "in immediate danger of contracting small-pox," and the corporation *shall* forthwith provide a place—to be known as a "vaccination centre"—at which persons may be gratuitously vaccinated or revaccinated, and it shall also provide such additional centres as upon the advice of its medical officer of health it deems necessary. The corporation is also directed to employ a registered medical practitioner to perform vaccination and revaccination at each vaccination centre; and it is characteristic of the eminent fairness of the Local Government Board that it has not visited the sins of the law-breaking guardians upon the head of the public vaccinator. If the public vaccinator is willing to accept employment under the corporation that body is bound to employ him. As regards the detailed performance of vaccination, the medical officer of health and all vaccinators appointed under the Order are to be subject to the Board's "instructions to vaccinators under contract" and all vaccinations are to be performed in accordance with the provisions of the Vaccination Acts, 1867 to 1898. Article VIII. of this Order contains a somewhat new departure relative to the revaccination of persons under ten years of age, an operation which is illegal under the provisions of the Vaccination Acts, as many public vaccinators know to their cost. But under this present Order, which, presumably, has no legal dependence upon the Vaccination Acts, the medical officer of health may, if he considers that the special circumstances of any specific case demand it, advise such revaccination, in which case the operation becomes a legal charge upon the rates. Provision is also made for the appointment of "medical visitors" who may be in charge of the borough or any subdivision of the borough for the purpose of the regulations. Such "visitors" are to act under the superintendence of the medical officer of health, who, by the way, it is to be hoped, will have time amidst his multifarious duties for such supervision, and the "visitors" are to make any investigations relative to the prevalence of small-pox or suspected small-pox which they may be directed by the corporation to carry out. Any wilful obstruction to the medical officer of health, vaccinator, or medical visitor is to be deemed an offence punishable by law. This, then, is the position in which the corporation of Dewsbury finds itself and the event, whatever the issue, is of historical interest. The occasion is, we believe, the first upon which a similar order has been

issued and to some extent much hangs upon the outcome of it. If Dewsbury shows itself alert and not amenable to antivaccinationists' influence we may be on the eve of important changes relative to the administration of vaccination. If, on the other hand, the corporation of Dewsbury betrays a leaning towards the clamour of its more ignorant electorate and a disregard for the health of those under its care the desirability of obtaining Parliamentary sanction to carry out our suggestion to transfer the administration of public health from the Dewsbury corporation to the West Riding county council will have to be considered by the Local Government Board.

MODERN WARFARE AND METEOROLOGY.

THOSE who have followed the accounts of the appalling engagements proceeding in the Far East cannot fail to have noticed that oftentimes severe fighting appears to bring in its train atmospheric storms. It was so in several sharp encounters in the Boer war; the occurrence of heavy thunderstorms was quite common whenever the firing of heavy guns was incessant. Needless to say, the phenomenon has been viewed by some with superstitious feelings as representing a remonstrance of the Deity against the horrors and the cruelty of war. Thunderstorms are, of course, recorded in history as having been a concomitant of bloody struggles but there is evidence to show that their existence is more marked and frequent under the conditions of modern warfare than has hitherto been the case. We know that great disturbances in the lower regions of the atmosphere are apt to induce a coalition of vapour particles in the upper regions with the result that they are precipitated in the form of rain. In agriculture, indeed, some attempts have been made "to tap" the clouds by creating a shock in the air as by letting off maroons. Again, it is commonly said that at the Crystal Palace on an evening when rain threatens to descend it only requires the discharge of fireworks to convert the threat into reality. Even a military (brass) band has been held responsible for a shower. If this is so we might reasonably expect modern warfare with its armamentarium of ghastly explosives to accentuate the process. Sharp and rapid vibration of the air probably favours a difference of potential until a point of stress is reached culminating in the gathering of great clouds and the bursting of a storm. Thus the fury of the elements may be engendered by the fury of men.

A RESTFUL EXHIBITION.

WORKERS of the educated class who are in the habit of seeking relaxation in foreign travel and in the study of the architectural beauties of continental towns will find themselves taken back to familiar scenes by the exhibition now being held at the rooms of the Fine Art Society in Bond-street. The etchings of Mr. Axel Herman Haig, the veteran Swedish artist, who has made England his home, are well known and the collection of his works now being shown is stated by the Fine Art Society to be complete so far as his published plates are concerned. At all events it contains nearly 140 examples and includes "The Vesper Bell" (the earliest and scarcest of all his works), "The Quiet Hour," "Mont St. Michel," "The Interior of Burgos Cathedral," and others now valued at many times their original cost, together with a large number of smaller and, to use the current term, less "important" plates. Many of these will probably be new even to collectors of Mr. Haig's productions, if only from the fact that they were first seen a long time ago. There are also shown two new large etchings, "The Palatine Chapel, Palermo," and "La Madeleine, Troyes," the former of which is not yet published. Perhaps the most beautiful of all to many will be "Toledo Cathedral, Interior," a wonderfully skilful combination of aquatint and line etching, the first predominating, in which the deep shadows that surround the worshippers form a strong and striking contrast to the light streaming through the windows upon the architecture above; but the Burgos Cathedral, already mentioned, is no doubt rightly regarded as Mr. Haig's greatest triumph in line etching over the difficulties which surround such work in plates of large dimensions. Several of the smaller aquatints are also well worthy of attention. The interest of the exhibition is increased by the fact that many of Mr. Haig's drawings and pencil studies of buildings and scenery are hung in an adjoining room. These, we believe, have not been offered to the public, or indeed exhibited, before and as some of them are the foundations from which the etched plates have been elaborated they form an insight into Mr. Haig's methods which is extremely instructive. Pencil drawing, moreover, is becoming something like a lost art which easier and showier methods have supplanted in the training of young artists. We see this in the illustration of scientific works and we see it regretfully. The enormous value of the camera in the production of diagrams for works of surgery or anatomy has not reconciled us to the absence of the splendid drawings of half a century ago. Etching is itself a method of reproduction owing its origin to the science of chemistry, and in the form of aquatinting is even less dependent than is line etching upon the use of a mere mechanical instrument. Perhaps this is why the process of eroding a copper-plate with acids and of regulating their action in order to create delicate gradations of tone and line seem to have had a fascination in some notable instances for medical men. Sir Francis Seymour Haden, the doyen of English etchers of to-day, and Sir William Gowers may be named as conspicuous examples of medical men who have etched, but we do not recall similar instances among those who have handled the "graver."

CHANGES IN THE NAILS AFTER SCARLET FEVER AND MEASLES.

IT is well known that after many acute illnesses a transverse line indicating altered growth can be recognised on several or all of the finger nails and that local changes, such as erysipelas and eczema, may cause a similar appearance in the fingers affected. Dr. E. Feer of Basle gives a detailed description in the *Münchener Medicinische Wochenschrift*, No. 40, 1904, of certain changes observed by him in the nails of cases of scarlet fever and measles which often escape notice. Four or five weeks after the commencement of the attack of scarlet fever there appears at the root of the nail a transverse linear groove, more rarely a slight ridge, with a curved outline, the convexity being directed towards the free edge of the nail, the appearance being most marked on the thumb nail. About a month later this line is very distinct and can be readily felt on running the finger along the nail; it is much more distinct when the nail is well developed than when it is small and thin and is therefore more easy to recognise in adults than in children. It is also more marked when the exanthem of the disease is well developed than in slighter cases. The groove or ridge, as the case may be, travels up the nail as growth occurs and is visible for nearly six months, at which time it reaches the free edge of the nail. A similar appearance is often seen on the great toe nails but only indistinctly on those of the other toes. In measles a less marked degree of the same condition is to be seen, though much less constantly than in scarlet fever, and the appearance is more often that of a flat or slightly terraced ridge with a rougher and less shiny surface than the rest of the nail. The explanation usually given of these conditions is the interference with the nutrition of the

epithelial layers of the skin and its appendages, resulting in a desquamation of the surface-epithelium and the altered growth of the nails. In rare cases of scarlet fever the nails may also be shed, although Dr. Moizard (quoted by Dr. Feer) suggests that in these conditions the case is probably one of scarlatiniform dermatitis and not of true scarlet fever. It is suggested by Dr. Feer that the appearances described may sometimes be of value in showing the connexion between cases of nephritis or scarlatinal rheumatism following scarlet fever in which the eruption has been overlooked. At the same time, when it is remembered that the nutrition of the nails is, at any rate in some people, liable to suffer from almost any febrile ailment it would be unwise to lay too much stress on such a suggestion. Although, according to Dr. Feer, the conditions to which he alludes are little known and are not mentioned in German text-books or monographs yet they were well described by Sir Samuel Wilks in this country a good many years ago and mention of them occurs in some English text-books of medicine.

IN THE MATTER OF PATENT MEDICINES.

THE German correspondent to whose communications upon this subject we referred in THE LANCET of August 27th (p. 625) and Oct. 8th (p. 1029) has addressed to us another letter in which he reverts to a proposal contained in one of his former communications which at the time we passed over in silence. This was no less than the suggestion that the British Medical Association, which he selected as a representative professional body suitable for his purpose, should make an examination of the remedy which he proposes to protect by letters patent and, having satisfied itself of its virtues, should apply itself to exploiting it. With the opportunities which would thus be obtained for securing its universal adoption a very large profit upon a moderate capital would, in his opinion, before long be obtained, and this he suggests would be a valuable addition to the income of medical charities or of equally deserving institutions. The scheme which we have outlined in rather general terms is an apt illustration of the very undesirable results which would necessarily follow were the practice, so abhorrent to medical ethics, of medical men prescribing and deriving direct profit from secret and proprietary remedies to be rendered possible. Why our correspondent believes that Britain and not his own country should be the appropriate field for the development of his project we do not know, but we would close our comments upon his letters by suggesting to him that there are in Germany quite as many persons as in England suffering from the diseases which he professes to cure and that the commercial enterprise which he recommends would find quite as favourable opportunities for development at home were not the medical profession all the world over at one in its attitude upon this question.

LUNACY IN QUEENSLAND, AUSTRALIA.

THE report of the Inspector of Hospitals for the Insane, Queensland, for the year 1903 states that the number of patients under care in the State institutions for the insane on the last day of 1903 was 1852—viz., 1136 males and 716 females. The number of patients increased during the year by 39—25 females and 14 males. Of every 1000 of the general population of Queensland in 1903 there were 3·6 persons under care in the State institutions for lunacy. Mr. James B. Hogg, the Inspector of Asylums, says: "The proportion of the insane to the general population has been slowly but steadily rising in all the States, and at the end of 1902 it was 3·34 in New South Wales, 3·77 in Victoria, 2·68 in South Australia, and 3·50 in New Zealand." The admissions for the year numbered 337. The list of admissions shows no numerical variations for the last three years, "but the relative proportion of females admitted has gradually fallen during the three years and is now about one-third of the total admissions." Under the criminal clauses of the Insanity Act nine patients were received, four of whom were found to be insane on or before their trials. "The search for causes of insanity [in the admissions] is greatly hampered by the fact that patients can often tell us little about their past lives and that many of them have no friends in Australia who could help us with information. In 93 cases no clue was found to the real cause of the insanity." In 60 cases there was excessive indulgence in alcohol, in 32 an insane heredity was ascertained, and 39 patients had suffered from attacks of insanity before. Disease of the skull and brain was accountable for 15 cases, epilepsy for 21, syphilis for 11, congenital defect of the brain for six, and the troubles of parturition for three. The number of cases discharged as recovered during the year amounted to 135, or 7·1 per cent. of the average number resident. The deaths during the year amounted to 133, or 7 per cent. as calculated on the same basis. The commonest causes of death were organic brain disease, pulmonary and other forms of tuberculosis, pneumonia, cardiac disease, chronic renal disease, and dysentery in descending order of frequency. During the year there was spent on hospitals for the insane the sum of £47,650 and on reception houses for patients the sum of £2332. Owing to the exercise of economy and "in spite of the high contract prices for meat, flour, and bread, which were legacies of the drought," the total cost was £905 less than in 1902. The gross yearly average cost of each patient in Queensland asylums was £25 17*s.* 8*d.* in 1900, £25 10*s.* 10*d.* in 1901, £27 0*s.* 3*d.* in 1902, and £26 1*s.* 7*d.* in 1903.

ARSENIC IN THE URINE.

THAT arsenic may be found in human urine in accordance with the environment of the individual seems well established from the results of an interesting investigation recently made by Mr. William Thomson, F.R.S. Edin., F.I.C., of Manchester. The urine of some people living in that city was certainly found to contain arsenic and the question arises as to whether the poison is derived from breathing the air apart from its possible occurrence in food. In the urine of persons from Manchester who were convalescing at the seaside the presence of arsenic was exceptional. The urine, again, of persons engaged in glass manufacture in which, as at St. Helens, arsenic is used for stirring molten glass was proved to contain considerable quantities of arsenic. Similar results were obtained with the urine from persons engaged in metallurgical work, as at Swansea, in which the presence of arsenic may reasonably be supposed. Even those who were not engaged in the operations but who were living near the works were found to excrete arsenic in the urine. Labourers in nickel and cobalt works, copper smelters, colliers, pearl grinders, and spelter furnace-men all eliminated arsenic in their urine. Against this it is an interesting fact that the urine of people who live in districts where only peat is burned was shown to be absolutely or practically free from arsenic. Milk taken from cows in the neighbourhood of Manchester contained minute quantities of arsenic, while samples taken from cows in the Hebrides showed no trace. Incidentally Mr. Thomson was led to examine grilled meat for arsenic, as it was considered likely that the arsenic from coke or coal used in the grill might contaminate the steak or the chop. It was found, however, that the operation of grilling practically does not contaminate the meat with arsenic from coke, owing probably to the rapid current of air between the fire and the meat which

carries away any arsenic and dust that may exist in the fuel. Cigarette papers proved to contain quite inappreciable amounts of arsenic. In some further investigations Mr. Thomson found in the thyroid gland only a minute quantity of arsenic, so minute that it can hardly be regarded as a normal constituent, as Gautier has stated. The spleen, liver, heart, kidney, and rib bone were, however, found to be free from arsenic, but the lung contained considerably more arsenic than the thyroid gland and the hair a great deal more than either, whilst in the brain only a very minute quantity was found.

CRIPPLED CHILDREN'S CHRISTMAS HAMPERS.

Sir William P. Treloar is now seeking through the press to remind generous readers of the distributon of Christmas hampers to upwards of 5000 poor crippled children in the metropolis and he has again received the support of His Majesty the King who has forwarded his usual donation and kindly wishes to Sir William Treloar. These hampers are despatched directly from the Guildhall by the Lord Mayor and Sheriffs on the morning of the day when, by permission of the Corporation, some 1200 Ragged School children are entertained. All through the year the Ragged School Union continues the work of registration, visitation, and relief, otherwise the distribution of hampers could not be undertaken on such a scale with the certainty that not one goes astray or falls into undeserving hands. Sir William Treloar hopes that again this year, besides denying no deserving applicant, a small balance may be left to meet those pitiable cases in which a crutch, an artificial leg, or the loan of an invalid chair may even be more welcome than a hamper. This is the eleventh year of Sir William Treloar's Fund, the success of which has been progressive. Those who desire to support this deserving, charitable, and withal good old English custom should send their donations to the Little Cripples' Christmas Hamper Fund, 69, Ludgate Hill, London, E.C.

EPIDEMIC CEREBRO-SPINAL MENINGITIS.

MENINGITIS of the epidemic form occurs more frequently in the United States of America than in other parts of the world and the opportunities for its study are exceptional. In the *Medical Record* of New York of Oct. 8th Dr. J. Ferrer, physician to St. Vincent's Hospital, gives an account of the epidemic of cerebro-spinal meningitis which occurred in New York in the spring and summer of the present year. 20 cases, he says, were admitted to St. Vincent's Hospital—two in March, five in April, nine in May, two in June, and two in August. The occurrence of the epidemic in New York was attributed largely to the severity of the winter immediately preceding it and the large number of cases of pneumonia which occurred in the winter. Of the patients 12 were males and eight were females, distributed as follows: Eight were Italians, eight were natives of the United States, two were Irishmen, one was an Englishman, and one was a negro. The ages varied from three years to 37 years. Of the 20 patients ten died—viz., five males and five females. Of the eight Italian patients six (five males and one female) died. "The cases did not materially vary from the classical types," says Dr. Ferrer, "and 16 cases were of the ordinary type." As regards duration 11 lasted long, while nine were of short duration. Of cases of the latter class which recovered one lasted only three days and some less than a fortnight. As regards symptoms there was considerable uniformity among the patients. All complained of pain in the head, severe as a rule, and all had some degree of retraction of the head and rigidity of the neck. All had delirium of varying intensity at one time or another of the illness. Examination of the blood showed more or less leucocytosis in every case. Constipation was present in all but two patients and these suffered from diarrhœa. 17 had attacks of vomiting at some time in the course of the illness, most of these attacks occurring at the beginning. 15 patients suffered from general cutaneous and sensory hyperæsthesia and Kernig's sign was elicited in 15. 14 had stupor, 12 suffered from general rigidity of the body, and 11 developed coma. Opisthotonos occurred in ten cases, nine had herpes labialis, five had convulsions and five strabismus. Lumbar puncture was performed in 11 cases and in four of these the culture from the fluid gave positive results; the remaining seven gave negative results. The types, says Dr. Ferrer, could be arranged under six subdivisions, a case illustrative of each being appended. The first case was that of a man with an attack of the fatal type, complicated in this case with parotitis—a rare condition. He died on the seventh day. The second patient, a girl aged 11 years, with the ordinary type of illness, recovered and left the hospital in a month. The third, a man aged 25 years, suffered from the intermittent form of attack and recovered in the fourth week. The fourth, a child aged three years, was affected by the "marantic" type of illness. She made a marvellous recovery after a desperate illness of over three months. The fifth, a boy aged ten years, who was normal in body and mind before his attack, became afflicted with deafness and loss of speech and passed into a deep dementia with unconsciousness. He then developed paralysis of the legs, strabismus, and idiocy, in which condition he died. This patient had been the subject of congenital hydrocephalus. The sixth and last was a mild "abortive" case of meningitis which cleared up after three days. The general line of treatment pursued, concludes Dr. Ferrer, consisted of the application of ice-bags and sponging, laxatives and enemata, and morphine with bromides for the relief of pain and irritation. Quinine and Warburg's tincture were given for the fever, as well as the salicylates and iodides of sodium. Digitalis and whisky were administered when the heart was feeble. The diet was always light and of a fluid character.

ANOTHER "BEAUTY DOCTOR'S" VICTIM.

THE "beauty doctor" referred to in THE LANCET of Oct. 22nd, p. 1165, or another person of the same class, was the subject of an application at the Marylebone police-court on the day on which our annotation was published, when the following description was given of the quack's methods. "Madam put some stuff on her clients' faces which had a burning effect and caused them to swell a tremendous size. She then put on a sticky plaster which was allowed to remain for 15 or 16 hours and when it was removed the face was like a half-cooked beef-steak. After that she administered a sticky jelly." The jelly was apparently applied in the form of a poultice and was left on the face for four or five days, the victim being fed with milk out of a feeding-cup. After this she was shown that her face had a smooth though red surface and was induced to sign a testimonial, but within a fortnight wrinkles appeared, the renewed face "collapsed," and its last condition was worse than that which caused its hapless owner to consult the "beauty doctor." The case bore a very close resemblance to that narrated to Mr. Rose, and as Mr. Curtis Bennett, unlike his brother magistrate, referred the applicant to a detective sergeant it is possible that we may hear more of it, including the name and the address of the person complained of. In these circumstances we make no further comment except that we would suggest to some of our contemporaries that they should exercise a little judicious censorship over their advertisements. The advertising of quack concoctions sold for the procuration of abortion was not discontinued until the prosecution of a few prominent advertisers made the discreditable nature of gains derived

from publishing incentives to crime conspicuous. When the prosecution of advertising tricksters at last takes place the evidence usually opens with the story of how the victim was attracted by an advertisement appearing in a newspaper and then at last the proprietor of the sheet named realises that he has been making a profit by assisting a trade in quack compounds. To come to the same conclusion without the publicity of police-court revelations is a course which prudence, if not a sense of decency, should recommend.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE following lectures will be delivered at the College on the days mentioned below at five o'clock P.M. The Fitz-Patrick Lectures will be delivered by Dr. J. F. Payne on Tuesday, Nov. 8th, and Thursday, Nov. 10th. The subject of the first lecture is English Medicine in the Anglo-Norman Period; Gilbertus Anglicus; and of the second lecture Ricardus Anglicus and the Teaching of Anatomy in the Middle Ages. The Bradshaw Lecture will be delivered by Dr. F. Foord Caiger on Tuesday, Nov. 15th, the subject being the Treatment of Enteric Fever; and the Horace Dobell Lecture will be delivered on Tuesday, Nov. 22nd, by Dr. E. Klein, F.R.S., the subject being the Life History of Saprophytic and Parasitic Bacteria and their Mutual Relation.

THE PROTECTION OF PUBLIC WATER-SUPPLIES.

DIABOLICAL outrages take many forms but it is difficult to imagine a more execrable deed than the casting of poison into the reservoirs of a public water-supply. So long as there exist a few maniacs amongst us whose unbalanced minds find occupation in placing obstructions on railway lines or in hurling infernal machines in places of public resort, so must every conceivable precaution be taken to minimise such possibilities, remote though their occurrence may appear to be. We have more than once been struck with the unguarded state of many of the reservoirs containing the public water-supply in this country. In many instances the reservoir is situated within a few yards of the public road and in country districts there is seldom any person stationed on the spot to maintain a jealous watch over the water and to keep out intruders or persons who have no business there. It is an opportunity for the individual with a depraved and unstable mind, though deliberate attempts to poison a public water-supply are, happily, rare in peaceful times. The approaches to a water-supply should be strictly guarded and the reservoir itself should be bounded by an unnegotiable fencing. The remarkable occurrence at Kingsbridge at any rate shows that it is not altogether absurd to suggest such measures. At this place a new supply has recently been established and it appears that while the surveyor was satisfying himself that the pumping machinery was in order and that the cement work was sound he was met with a powerful smell resembling carbolic acid. Subsequent investigation showed that the water was strongly alkaline from the presence of caustic soda and that there were present traces of carbolic acid and naphthalene. It is said that there was evidence of previous attempts having been made to contaminate the water, though they were not so serious. At a special meeting of the water committee of the Kingsbridge urban district council held recently it was decided to issue notices with the view of discovering the miscreant and a reward was offered to any person leading to the conviction of the guilty party. It is sincerely to be hoped that this step will succeed in bringing the perpetrator of this wicked act to book. Meantime it would be well if our water authorities would take severer measures to secure public water-supplies from outrage of this diabolical kind. There are instances of mimicry in the annals of crime which should serve to put our water authorities on their guard in the strictest sense. In the present case we venture to think that a clue as to the perpetrator of the outrage might possibly be furnished from the nature of the poisonous material thrown in. Naphthalene in association with carbolic acid suggests the crude tar of the gasworks. It is appalling to think what might have happened if the miscreant had used a poison which did not betray its presence by a strong smell.

THE UNIVERSITY OF LONDON.

WE are requested to draw the attention of members of the Faculty of Medicine of the University of London to the fact that while the meeting summoned by the Vice-Chancellor for the election of a dean is fixed for 5.30 P.M. an ordinary meeting for the transaction of other important business will commence at 5 o'clock. Both meetings are to be held on Tuesday, Nov. 1st, in the Jehangir Hall of the University Buildings, South Kensington.

INSTRUCTION IN SCHOOLS ON THE LAWS OF HEALTH.

SOME time ago we drew attention in our columns to the memorial signed by 14,718 medical men which was presented by an influential deputation to the President of the Board of Education. The President, in his reply, spoke of the sympathetic attitude of the Board towards the question then raised and it was hoped that some positive effort might be made to insure teaching in hygiene, especially in regard to such matters as ventilation, cleanliness, food, and drink, or that, at any rate, no obstruction would be put in the way of local authorities who might desire to make arrangements for such teaching. At present there seems to be little prospect of the fulfilment of such a hope. In 1890 an attempt was made in Lancashire and Cheshire to fill up one of the gaps in the training of children and the services of a number of trained certificated teachers with special science qualifications were retained to give illustrated object lessons on "alcohol and its effects upon the human body." These lessons given "strictly in accordance with school requirements and in conformity with the code have always been illustrated by charts, diagrams, and experiments," and in all cases have been kept free from such terms as "pledge," "drunkenness," "public house," and the like. That this work was done thoroughly is evident from the fact that throughout Lancashire, Cheshire, and North-West Derbyshire the visits of these teachers to the various schools were welcomed alike by inspectors, teachers, and children. The lessons were arranged to be given to the children of Standards IV. and V. and upwards and, of course, were always given by permission of the school authorities. Under the old *régime* no class of school refused these lessons, permission being given by the various school boards in the case of board schools and by the managers or head teachers in the case of voluntary schools. Under the new Education Act, however, the managers of certain non-provided schools have objected to the county authorities' instruction that this teaching shall be treated as part of the secular instruction given in schools and have written to the Board of Education pointing out that the lessons were not provided for on the time-tables signed by His Majesty's inspectors of schools. Without consulting the county education authority on the matter the Board of Education immediately sent down to the county officers a communication that is looked upon as being tantamount to a refusal to permit his teaching to be given and it suggests, although it

does not actually say that the lessons must not be given, that these lessons are illegal, although provision is made in Schedule IV. in the code which says that a log-book of the school shall contain an account of all deviations from the order and the routine of the school. This appears to indicate that the education committee has a right to order certain deviations as regards secular education; in fact, that it is paramount in any matters not of a religious nature. It must be remembered that the Inter-departmental Committee on Physical Degeneration has now reported and that it has placed on record its opinion that alcoholism is the second most important of the general causes of physical degeneration. This committee, too, has expressed the belief that more might be done to check degeneration resulting from drink by bringing home not only to children but also to those of more mature growth the fatal effects of alcohol on physical efficiency than by expatiating on the moral wickedness of drinking; in fact, it recommends exactly what the authorities in Lancashire, Cheshire, and North-West Derbyshire have been doing—the provision of instruction in schools on the laws of health, including lessons on the physical evils of drinking. This is an important matter and one in which medical men are greatly interested and we hope that ere long better counsels will prevail and that the good work carried out in the above districts may be more warmly encouraged by the Board of Education which in any case might encourage instead of throwing cold water on a scheme under which such excellent work has been done.

SYMPTOMS OF TUMOUR OF THE FRONTAL LOBE OF THE BRAIN.

Dr. J. Ramsay Hunt, instructor in neurology at Cornell University Medical School, has published in the "Studies from the Department of Neurology" of Cornell University, 1904, an interesting case of tumour of the frontal lobe of the brain which adds to our knowledge of this rare class of cases. The patient was a man, aged 40 years. His history, obtained from himself and his friends, was somewhat meagre. For four months he had been acting strangely, at times wandering in his mind, talking nonsense to himself, and smiling. Occasionally he would fall into a lethargic sleep sometimes lasting several days. While in these fits of apathy he appeared oblivious of his surroundings and showed no desire for food. His memory had suffered very material impairment. He was very weak and would frequently stumble. He never complained of headache but during the few months preceding his admission to hospital was unable to follow his occupation. On physical examination the pulse, respiration, and temperature were found to be normal, being respectively 76 beats per minute, 18 respirations per minute, and 98° F. The pupils were equal, moderately contracted, and showed normal reactions. The tongue was tremulous and deviated towards the right side. There was paresis of the left lower facial region, the left arm, and the left leg. No tremors or ataxia of the extremities could be detected in the recumbent position. The tendon reflexes were exaggerated, more especially on the left side, and the abdominal and cremasteric reflexes were absent on the same side. Babinsky's reflex was present in the left foot; the plantar reflex of the right side was capricious and uncertain. There was neither ankle clonus nor demonstrable difference of sensation of the two sides. Eye-sight and hearing were normal. "Mentally he is very apathetic; he remains quietly on his back all day and is apparently without interest in his surroundings. There is usually incontinence of urine and fæces. ..... By repeating his name or a question several times he can usually be aroused, but the answer to questions is singularly delayed. ..... Memory is seriously impaired, especially for recent events. Small mathematical calculations are impossible. Not infrequently questions are answered in a peculiarly jocular vein (Witzelsucht)." An account of a case of frontal tumour with similar symptoms was reported some years since in THE LANCET.[1] The patient in the present case did not suffer from headache, vomiting, or convulsions. He never complained and would respond that he felt "all right," not infrequently giving a humorous turn to the response. Appetite and thirst were normal. For one week there was a very distressing singultus (twitching and jerking of the muscles) occurring about once a minute. This resisted all medical treatment and finally ceased spontaneously. He eventually passed into coma and died on the twenty-third day after admission. The necropsy revealed a large and broadened right frontal lobe of the brain. "The clefts and sulci were almost obliterated, the underlying brain substance had a fluctuating cystic feel, the meninges were normal as were also the basal vessels of the brain. A clear fluid exuded from a softened area at the frontal pole." Section of the frontal lobe revealed the presence of a large deep-seated tumour within the white substance and involving the external and basilar aspects of the lobe. The tumour did not reach the internal capsule posteriorly. Some of the symptoms of apathy and dementia, says Dr. Hunt, bore a resemblance to those of general paralysis. The tumour was a gliosarcoma. The left-sided hemiplegia was to be regarded as a distant pressure symptom.

OLD VIEWS UPON HERMAPHRODITES.

THE legal status of hermaphrodites has always been one of perplexity. The Talmud lays down minute rules as to what persons of this kind may do and may not do but in several important respects places them outside the protection of the Law of Moses. Their position was, indeed, almost Gilbertian. They were obliged, for instance, to marry their brothers' widows when the latter were childless but were forbidden to bear witness in common with other women. They might walk among the dead as women and not be polluted; they were to cut their hair as women; they were to observe the law of chastity as applying to the female sex. They had their share, however, of both paternal and maternal inheritances and "also in such other inheritances as they may claim by law as a man and woman." From this it might appear that they could inherit two sets of legacies—those proper to men and those proper to women. In the Middle Ages, under the canon and civil law, hermaphrodites were forbidden to bear witness except in cases "wherein a woman may." They could not witness a will if their sex were quite indeterminate but if the male element predominated in them they might. Curiously enough, when it was quite uncertain whether they were men or women the choice contracting marriage was left to them. Sexual deformity was generally regarded as infamous. It was often suspected, too, of being of diabolic origin. Hence the church and the law were barred to hermaphrodites on the ground that to such poor wretches the "gates of dignity" ought to remain closed. As late as 1741 Dr. James Parsons, in his "Mechanical and Critical Enquiry into the Nature of Hermaphrodites," mentions the belief that they were capable of self-impregnation, after the manner of some plants. He combats this belief and his book doubtless marks the growth of a more reasonable view, among the laity especially, concerning deformities of every kind.

A HEALTH EXHIBITION IN BOMBAY.

IN connexion with the Industrial and Agricultural Exhibition of the Twentieth Indian National Congress to be held in December, 1904, it has been resolved to have a health exhibition. The exhibition is under the auspices of the Bombay

[1] THE LANCET, June 29th, 1901, p. 1848.

Sanitary Association and promises to prove of wide interest. The exhibits will be arranged in different sections, a separate section being allotted to work done by ladies, amateur and professional. The hygiene section comprehends exhibits of (1) water-supplies and filtration; (2) drainage and the modern system of sewage disposal; (3) infectious diseases and their prevention, disinfection; (4) ventilation of buildings and factories; (5) modern sanitary appliances; (6) food and milk, their values and preservation; (7) conservancy and refuse disposal; (8) model dwellings; and (9) literature relating to sanitation. This comprehensive list should produce an interesting exhibition and help forward sanitation throughout the Indian Empire. A useful addendum is the proposal to have demonstrations and lectures on subjects appertaining to tropical hygiene and sanitation, the lectures to be illustrated by limelight, microscopic and lantern demonstrations.

ANGINA PECTORIS AND ARTERIO-SCLEROSIS.

AT the recent annual meeting of the American Medical Association Professor William Osler read an important paper on the Relation of Angina Pectoris to Arterio-sclerosis. He pointed out that although the association of disease of the coronary arteries with angina pectoris is one of the best attested facts of pathology, yet it has not helped much to explain the mysterious nature of the pain or the other phenomena of the paroxysm. Arterial disease of other parts is also associated with pain. In the head there are the association of migraine with arterial disease, the severe and characteristic headaches of high blood pressure, and the agonising pain in some cases of cerebral embolism, more rarely in thrombosis. In lesions of the mesenteric arteries there may be severe abdominal pain. But it is in sclerosis of the arteries of the limbs that the most remarkable disturbances of sensation are met. There may be (1) simple paræsthesia, the numbness and tingling so commonly complained of; (2) attacks of painful cramps, usually slight and nocturnal, or of great intensity and deserving the name of angina cruris more than that of intermittent claudication which Walton has applied to them; and (3) paroxysms of pain with erythema and other symptoms, the arterio-sclerotic type of erythromelalgia. But the pain of angina pectoris is *sui generis* and while its association with coronary sclerosis is unquestionable there is some other unknown factor. Professor Osler distinguishes four groups of cases of angina pectoris in relation to arterio-sclerosis: 1. The neurotic, in which young persons die with all the symptoms of the disease and yet the necropsy shows normal coronary arteries and neither local nor general arterial disease. Professor Osler has reported a case in a man aged 28 years who had had for years paroxysms of agonising cardiac pain and died in an attack. 2. The angina pectoris of young men associated with syphilitic arteritis, aortic or coronary, or both. This form usually occurs in men under the age of 35 years. There may be no general arterio-sclerosis but there is a lesion either at the root of the aorta, or involving the sigmoid valves, or confined to the coronary arteries. The attacks are relieved, and sometimes cured, by iodides. The paroxysms may be the initial symptoms of aneurysm of the first portion of the arch of the aorta. 3. The pre-senile cases, forming the great majority, in which the attacks are associated with sclerosis of the coronary arteries as part of widespread degeneration of vessels. But there is another factor, for in only a small proportion of cases of sclerosis of the coronary arteries does angina pectoris occur. 4. The senile group. After 70 years of age angina pectoris is not infrequent, being a sort of terminal event in the cardio-vascular degeneration.

ANTI-TYPHOID INOCULATION.

THE Advisory Committee in Anti-typhoid Inoculation, which was appointed by the Secretary of State for War some months ago, having reported to the Army Council that a substantial reduction in the incidence and death-rate from typhoid fever had been achieved in the army by Professor A. E. Wright's system of anti-typhoid inoculation, and having recommended that this system, which was abandoned at the instance of the Medical Advisory Board, should be resumed in the army, a commencement is about to be made by inoculating volunteers from the 2nd Battalion Royal Fusiliers which is shortly to proceed to India. The position of anti-typhoid inoculation as a scientific method of therapeutics, and the action of the Army Advisory Board, of various Committees constituted by the War Office, and of Professor Wright, the inaugurator of the method, are well set out in a leading article in the *Times* of Oct. 27th. Professor Wright's papers on the subject and the statistics which have so far been forthcoming in support, or otherwise, of anti-typhoid inoculation have all been published in our columns, and we make no doubt that most of our readers will find themselves in accord with the *Times* and with ourselves in considering the whole story a curious one. Professor Wright and Dr. W. Bulloch have resigned their seats on the Anti-typhoid Committee, as they are of opinion that the further improvement of the process of anti-typhoid inoculation and the study of the problem of immunity against typhoid fever can be properly carried out only by the agency of a permanent working committee, consisting of civilian experts and Royal Army Medical Corps officers.

AT a largely attended meeting of the council of the British Medical Association held on Oct. 19th it was resolved that the gold medal of the Association should be awarded to Sir Constantine Holman for his distinguished services to the Association. Sir Constantine Holman's life-long and successful labours for the improvement of the financial conditions of the medical charities, with which our readers are well acquainted, also assisted in determining the council of the Association in conferring upon him the chief honour in its power.

Dr. T. Orme Dudfield will read a paper on the Need of Sanatoria for Persons suffering from Consumption and How it may be Supplied, at a special meeting of the council of the Charity Organisation Society to be held on Monday, Oct. 31st, at 4.30 P.M., at the Royal United Service Institution. Mr. E. W. Brabrook, C.B., will preside and Sir William Broadbent will take part in the meeting.

THE opening demonstration of the winter session of 1904–05 at the Hospital for Consumption and Diseases of the Chest, Brompton, will be given by Dr. Percy Kidd on Wednesday, Nov. 2nd, at 4 P.M., the subject being Some Points in the Prognosis and Treatment of Pneumonia. The lectures are free to all qualified medical practitioners and to students attending the practice of the hospital.

IT is announced that His Majesty the King has been pleased to appoint Dr. Bertram C. A. Windle to be President of Queen's College, Cork, in the room of Sir Rowland Blennerhassett, who has resigned. Dr. Windle is at present Dean of the Medical Faculty and Professor of Anatomy and Anthropology in the University of Birmingham.

A CONFERENCE arranged by the Sanitary Institute and the King Alfred School Society will be held on Friday, Nov. 11th, in the Parkes Museum, Margaret-street, London, W., to discuss Recent Educational Developments, with

special reference to the new Education Code and the report of the Moseley Commission.

THE Bowman Lecture of the Ophthalmological Society will be delivered on Thursday, Nov. 3rd, at 9 P.M., by Dr. F. W. Mott, in the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., the subject being the Visual Cortex. All members of the medical profession are invited to attend.

THE council of the University of Leeds has appointed Professor A. G. Barrs as its representative upon the General Council of Medical Education and Registration of the United Kingdom.

His Majesty the King has been graciously pleased to confer the title "Royal" upon the Sanitary Institute and to signify his pleasure that the institute should be known as the Royal Sanitary Institute.

THE EVOLUTION OF MAN'S DIET.

By HARRY CAMPBELL, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL AND TO THE HOSPITAL FOR NERVOUS DISEASES, WELBECK-STREET.

VI.[1]

THE PRE-CIBICULTURAL—COCTURAL PERIOD.

The discovery of fire.—When we speak of the "discovery of fire" it must be understood that we do not mean man's first acquaintance with this element, but rather the discovery of how to produce it artificially, or—what is by no means the same thing—of how to turn it to practical account. Whether he had already learnt how to produce fire himself when he first began to utilise it, or whether he depended for it upon natural sources, it is impossible to say. The latter supposition is perhaps the more probable: for man must have known the fire of nature from the very dawn of his being. When was there a time when the earth was without fire? In the warm regions of his cradleland he must often have witnessed the forest or prairie fire kindled by sun or lightning; or again he must have seen the flames flashing forth from the dread volcano and the burning streams of lava scattering fiery ruin in their path. It was not, however, till a comparatively late period of his evolution that he learned to turn this potent element to practical account. When that was, or for what purpose he first employed it, we cannot say. Inasmuch as flint implements, artificially fractured by fire—after the method adopted by the Australians and Andamanese—have been found in the miocene strata of Thenay[2] Mortillet concludes that fire was utilised by our homo-simian precursors, though I for my part should unhesitatingly confer the dignity of manhood upon those of our ancestors who first bent this mighty element to their own uses. Be this at it may, the discovery of these fire-split flints seems to show that fire has been used and controlled from a very early period.

The antiquity of cookery.—The fact that fire has been so long utilised is a sufficient proof of the great antiquity of cookery, for there can be little doubt that to cook food was one of the earliest uses to which it was put. No race of beings, whether we agree to call them men or monkeys, would be likely long to utilise fire for other purposes without discovering its remarkable effect on food, especially on the vegetable varieties, and it is certain that of the various uses to which early man may have put it none can in any way have compared in importance with its use in cookery. Analogy with the most primitive peoples now living—those in the pre-cibicultural phase of culture—bears out this view. The Esquimaux form, it is true, an exception, but they are altogether exceptionally circumstanced; fire is chiefly valued by them for lighting their oil lamps during the long months of winter darkness; for warmth they depend upon clothing rather than upon fire, and they can largely dispense with cooking, subsisting as they do almost entirely upon animal food which stands in far less need of it than vegetable food; moreover, raw frozen meat is by no means unpalatable, and, as a matter of fact, they eat a good deal of their meat raw, from which very circumstance, indeed, they derive their name. With the other pre-cibiculturists, however, the kindling of a fire means before all things the preparation of a meal and it is used for very little else. They do not need it for light, for night is their time for rest and sleep; nor do they greatly employ it for warmth, for though some of them, like the Fuegians, live in cold regions, they disdain even the use of clothing, and while many of the pre-cibiculturists employ fire for hardening the sticks they use for digging, this is certainly a minor use, and again whatever may have been the case formerly do not at the present day use it for making their flint instruments.

If, then, cookery was one of the earliest uses to which fire was put, and if the utilisation of fire dates from the miocene period, why, it may be asked, should the beginning of the coctural period be placed so late as the 11·5th grade? I should here explain that I do not date this period from the very first employment of cookery, but from the time it had come to be practised habitually as a serious business of life and had attained to something of the dignity of an art. Not till then can it be said to have made any great difference in man's dietary or social life. But long before this genuine coctural period, as we may call it, was reached man cooked his food in a crude and desultory fashion: the cookery as practised by present-day pre-cibiculturists, who are all in the genuine coctural period, is not a growth of yesterday but the product of a long-continued evolution. It is quite possible that this period began before the 11·5th stage. We have at present no means of knowing; there is no evidence that the Neanderthal race, which had reached the 12th, if not the 13th, grade, cooked their food at all, but we cannot rely on such negative evidence, and in the absence of any other all we can affirm with certainty is that the period of systematic cookery must date back to a most remote antiquity.

Thus we find pre-cibiculturists widely separated from one another, both ethnologically and geographically, employing almost identical methods of cooking. The Australians, Californians, Bushmen, Andamanese, and Ainus all extract noxious principles from vegetable foods, and all employ underground ovens. These ovens, to say nothing of the means adopted for removing harmful substances, are so remarkably alike wherever they are found as to make their origin from a common source practically certain, for we assuredly cannot account for their resemblance by recourse to the principle on which some ethnologists—and none more so than Keane—rightly lay such great stress—namely, that similar customs may arise independently under similar conditions. Now, seeing that some of these peoples, to wit the Australians and American Indians, were for long ages cut off from the rest of the world, they must have brought their methods of cookery with them at that remote time when they first migrated into their respective countries, and it is at least highly probable that these methods had been in existence long anterior to this.

The same conclusion is forced upon us by considering the methods adopted by primitive man for producing fire. The most finished and ingenious of these methods among primitive peoples is that of the fire-drill. We may be quite sure that this instrument was not invented until long after man had learnt to produce fire artificially, that it was in fact the outcome of a long experience in the production and utilisation of fire, and did not come into use until the genuine coctural period had been well established. Now this drill was at one time in use in widely separated parts of the world—e.g., among the Esquimaux, the ancient Mexicans, the tribes of Central America, and the Botocudos of Brazil, among the Bushmen, Kaffirs, Hottentots, and the tribes of West Africa, among the Australians and Tasmanians, and among the tribes of Western India, Alaska, and Kamschatka.[3]

How are we to explain this widespread use of the drill? One may admit the possibility of its having been discovered

[1] Nos. I., II., III., IV., and V. were published in THE LANCET of Sept. 10th (p. 781), 17th (p. 848), 24th (p. 909), Oct. 1st (p. 967), and 15th (p. 1097), 1904, respectively.

[2] See Le Préhistorique, par Gabriel et Adrian de Mortillet, third edition, Paris, 1900, p. 77 et seq.

[3] It is curious that the comparatively enlightened Polynesians, including the Maoris, should retain a more primitive method of ignition than the drill, while, on the other hand, so primitive a people as the Fuegians have for centuries past used flint and iron for that purpose.

independently by some of these peoples, but one can hardly doubt that it has for the most part spread from a common home, being introduced into countries like America and Australia by the primitive immigrants, and that it has therefore a great antiquity—a conclusion which places the beginning of the genuine coctural period at a very remote era indeed.

The evolution of cookery.—A mere outline of this subject must suffice. The simplest method of cooking, and no doubt therefore the first to be employed, is by direct exposure of the food to the fire, either by placing it actually upon the fire, or by cooking it in hot embers—methods still adopted by all the surviving pre-cibiculturists. The advantage of employing hot embers is obvious; the heat is much less intense than is the case with a flaring fire and is less likely to burn and to char. Another method of avoiding the too great heat of the fire is to wrap the article to be cooked in leaves before placing it on the fire; in this way the Andamanese cook grubs and insects. Among the pre-cibiculturists the cooking of animal food is generally, as we shall see, of the crudest description, often amounting to little more than throwing the entire carcass of the animal to be cooked upon the flames, so that while some parts are charred others are left quite raw. The Malay negritoes hold their fish over the fire by means of a cleft stick. The pigmies of the Congo forests broil their meat in ashes. Vegetable food cannot well be cooked in this primitive fashion for the obvious reason that it would be likely to be burnt up; the pre-cibiculturists, therefore, as we should expect rarely, if ever, resort to this method of cooking their vegetable food, and when they do they wrap it first in large leaves. On the other hand, they not infrequently roast it in hot embers, just as we might roast a potato if hard put to. Even small seeds may be cooked in embers by shaking them together; thus the Californians have a plan of roasting seeds by shaking them with embers in a basket, "bringing them into continual and close contact without burning the seed."

Such crude methods of cookery were employed first in a desultory and then in a more systematic way a long time before the elaborate methods practised by present-day pre-cibiculturists came into vogue, probably before the early palæolithic (Chellian) age. The first great advance in the art of cookery consisted in the employment of underground ovens, since by their means food could be cooked much more efficiently than was before possible. When this method was first introduced it is impossible to say. It was certainly practised by the Europeans of the late palæolithic (Magdalenian) age, and probably long before. The employment of these ovens seems to have been at one time well-nigh universal among primitive peoples: every existing pre-cibiculturist people concerning whom we have detailed information employs them. Evidence points to their having been once used throughout the length and breadth of North and South America; they are still in use among the Californian Indians and they were till recently among the Botocudos of Brazil; they are met with in Africa, the islands of Polynesia (including New Zealand), Melanesia, Indo-Malaysia, and Madagascar; they are known to have been used in the Canary Islands, Morea, and Sardinia; and I doubt not that investigation will show that they were once as widely used in Asia also.

I have said that underground ovens were in use among the Europeans of the late palæolithic period. Müsch, as recently as 1896, describes two "foyers" which were evidently ovens at a Magdalenian station. One of them consisted of an excavation paved with stones and filled with cinders and calcined flints, and arranged at a certain distance round this was a circle of large stones; the other oven was similarly surrounded by flat stones, among which was a large block of granite presenting a plane surface, marked by many blows and buried under flint débris.[4] Compare this with Sir George Grey's description of the native encampments frequently met with in Australia. "A large circle of flat stones is arranged round the place where the fire has been; on each of the flat stones is a smaller one for breaking shell-fish, also a large shell used for a cup, and scattered all round are broken shells and the bones of kangaroos."[5] Again, the discovery in our own country of calcined stones, buried sometimes in the sites of ancient dwellings, strongly suggests that they were used for ovens, possibly also in boiling. Thus we may regard it as practically certain that the method of cooking by underground ovens was once universal, just as was the employment of the chipped flint.

The suggestion of oven-cooking possibly originated in a custom still occasionally practised by some primitive peoples of burning a fire over the food to be cooked. The Bushmen dig a hole in the sand under the fire and into it place the food to be cooked which thus becomes covered with hot ashes. It was but a step from this to digging a hole in the ground, putting the food to be cooked in it, and then kindling a fire on the top, or around it, as do the Yurok tribe of Californians who cook their acorn meal in small holes scooped in the beach, a fire being kindled round these miniature ovens. The next advance was, we may assume, to dig a hole, to heat it by burning a fire over it, and then, having raked out the ashes, to place the article to be cooked inside and cover it up. The Californians cook whaleflesh in this way—i.e., "in holes dug in the ground and curbed up with stone-like walls. Over these they build large fires, heat them thoroughly, clean out the coals and ashes, fill them with flesh, cover the opening with sticks, leaves, grass, and earth, and thus bake their repast." Finally we arrive at the most advanced method of oven-cooking—i.e., by means of heated stones. Though minor individual differences may exist in regard to this latter method it is much the same wherever employed: a hole is dug in the ground; it is then filled with stones or—should these not be at hand—with lumps of earth; a fire is now kindled over the hole and the contents are thereby heated, whereupon the stones or clods are removed with wooden tongs and the article to be cooked and the heated stones or clods are then placed in alternate layers within the oven, forming a well rounded pile above the level of the ground, the whole being covered with matting or leaves, rushes, grass, or the like, so as to retain the heat and to allow the food to be cooked. The process occupies some hours and it is a common practice to start the cooking at night, in which case the food is ready for consumption the next morning. This method may be described as "stone baking." Generally, however, the oven is lined with, and perhaps also the layers of food and stones are separated by, damp rushes, grass, &c., so as to generate steam which becomes the active agent in the cooking, a method which may be described as "stone steaming" and a very admirable one it is. Without metals or pottery who among us could devise a better? Sometimes no preliminary excavation is made, but the article to be cooked is surrounded or placed between layers of hot stones and then covered with leaves, &c., in order to confine the heat.

The ovens are generally made where the tribe happens to be and are abandoned as the tribe moves on, but when the camp is pitched for some time in one place the same oven may be used several times. In some parts of Australia mounds of ashes eight yards round and five feet high mark some favoured spot where the same ovens have been used year after year.

The next great advance in cookery came when man discovered how to boil water. In some parts of the world—e.g., in the neighbourhood of the famous terraces of New Zealand—nature has provided boiling pools which afford a ready means of cooking food and the Maoris do in fact use them for this purpose. The food to be cooked is placed in a basket or netting, lowered into the water by means of a string (which is made fast to some fixed object), and there left till it is cooked. It was not, however, till a comparatively recent period that man learnt himself to boil water, probably not till long after he began to employ underground ovens, so great were the difficulties which presented themselves. That the method of boiling food post-dated that of baking or steaming it in ovens is shown by the fact that certain pre-cibiculturists who employ ovens have not yet arrived at the stage of boiling their food. Such is the case with the Australian aborigines—a fact which seems to show that this art was not discovered until late in the coctural period.[6] The Fuegians and Bushmen are also said to be unacquainted with it. The great obstacle which presented itself to primitive man in the way of boiling water lay in the fact that he possessed no water-tight vessel capable of

[4] Mortillet (op. cit., p. 190) remarks upon the frequency with which these cooking-places have been found in the later palæolithic stations and how rarely they have been studied with care, a circumstance which, as he truly remarks, "est très fâcheux." This is indeed one of the many proofs of the small interest which palæontologists and ethnologists have taken in the subject of man's diet.

[5] Journals, vol. i., pp. 71–107.

[6] According to Baines stone-boiling is not wholly unknown among the Australians (see Anthropological Review, July, 1866, p. 104), but instances of it are so isolated among them as to suggest that it is of recent introduction.

resisting the action of fire. Pottery, it should be remembered, is of quite recent introduction; it is unknown to primitive pre-cibiculturists and belongs, in fact, to the cibicultural period. The only vessel capable of resisting fire in pre-pottery days was one made of hewn stone, but the making of such vessels entails great labour and they do not appear ever to have been widely employed for cookery of any kind. Vessels of stone bearing obvious signs of the action of fire have been found in a Magdalenian station, showing that stone saucepans were not unknown to the later palæolithic European, and stone vessels made of pot stone (lapis ollaris) are used by the Esquimaux and other primitive peoples. In the British Museum is an admirable specimen of an Esquimaux "stone kettle," of rectangular shape, about 18 inches long and five or six inches in height and depth. The Esquimaux also make their tray-like oil lamps of stone and much of their cooking is done by means of these lamps. The Californians employ vessels made of soap-stone, not, however, as saucepans, but for the purpose of stone-boiling, and it may safely be said that stone vessels have never been widely used for setting upon the fire.

How, then, did man first boil water? Before answering this question let us first consider what vessels he employed for holding water. The most primitive were those fashioned by nature, such as the rind of gourds, the shells of shell-fish[7] and eggs (e.g., ostrich), joints of bamboo cane, and even the human skull. At a later stage man learned to make water-tight vessels of skins and closely plaited basket-work. It is obvious that none of these vessels can be used as saucepans, though the Botocudos are said to have boiled water in bamboo vessels held over the fire. A water-tight vessel may, however, despite its inflammability, be used for boiling water: all that is needful is to fill it with water and then to drop in heated stones. This ingenious method was widely practised among primitive peoples and is still employed by some of the pre-cibiculturists, such as the Californians, Esquimaux, and Andamanese. It was in use in isolated parts of Europe till within comparatively recent times; in Ireland hot stones are said to have been used for warming milk as late as the seventeenth century and by the Fins for making beer in the eighteenth century. In the earliest times the vessels most frequently employed for stone-boiling were water-tight baskets, and these are still manufactured by, among others, the Californians, the Fuegians, the Kaffirs, and the Australians. The art of making pottery does not appear to have arisen till the agricultural period, though the Andamanese are said to have been acquainted with it. It apparently arose in an attempt by some ingenious individual to protect a water-tight basket from the action of the fire by coating its exterior with moist clay, when it was found that the clay became hardened into a vessel which had the double virtue of being water-tight and fireproof. At a later period the clay was fashioned to line the interior of the rind of a gourd or a basket, and it is an interesting fact that some of the earlier pottery is ornamented so as to suggest the impress of basket-work. While vessels of basket-work were the most commonly employed for stone-boiling other kinds were also used. The Californians are said to stone-boil in receptacles made of soap-stone, although they more frequently use closely plaited vessels for this purpose. A tribe of North American Indians when they killed an animal were in the habit of digging a hole in the ground and lining it with the skin of the beast, which thus served as a huge boiling pot for the carcass—a method still practised at certain festivals. Another Indian tribe has been known to employ a canoe for boiling a large fish. Sometimes the boiling is done in pools of water and frequent mention is made of the Californians boiling water in sand pools.

The practice of stone-boiling was at one time very widespread. Tylor, who has made a special study of the subject, concludes that it was generally employed throughout North America but that it had at the time of the discovery been largely displaced by the introduction of pottery; it was once common in North-east Asia and, as we have seen, was practised in Europe to within quite recent times. It is also known to have been in use among the Polynesians—e.g., Maoris—and the African negroes. There are, in fact, very few primitive peoples to whom the custom was unknown. The Andamanese boil turtle blood in the shell of the animal.

Cookery first employed for vegetable foods.—The question whether at the beginning of the coctural epoch cookery was employed equally for animal and vegetable food, or for the one more than the other, is of great interest. I believe that it was chiefly, if not entirely, used in the first instance for vegetable food. There were many reasons why man should cook the latter and but few inducements for him to subject his animal food to the process. By means of cookery he was, as we saw in an earlier paper, enabled to augment his supply of vegetable food to an enormous extent, inasmuch as the digestibility of all vegetable substances save the luscious fruits is greatly promoted by the application of heat. On the other hand, cookery does not promote the digestibility of animal food; it is true that the connective tissue is by it gelatinised, but, on the other hand, the proteids are coagulated and, if anything, rendered less digestible. Why, then, should early man have been eager to cook his animal food? It is true that cooked flesh is more savoury than raw, but it is very doubtful whether he would be at great pains to cook his animal food merely for the sake of improving its flavour. He was a hunter and largely carnivorous for long ages before he learnt to cook at all, and what he strove after so eagerly we may be sure he devoured with no less eagerness and with all the savage relish of the genuine carnivorous animal. Strange to say, Cuvier held that man became an animal feeder by virtue of cookery and quite recently the same view has been put forward by Dupont, Boidier, and Bergé. "It can be asserted with complete assurance," observes the last-named, "that if man has been able to include flesh foods in his dietary it is essentially because he has been enabled to submit them to the action of fire. Unless cooked these foods are very difficult of assimilation (*sic*) and cannot therefore enter into his dietary."[8] This view is altogether untenable, for not only is raw animal food very readily assimilable, but man was a hunter long before he employed cookery. Nay, more than this, there are, as we shall see, many primitive peoples, and some of them in by no means the lowest stage of culture, who still continue to eat their animal food either half cooked or actually raw.

Observed facts also clearly point to cookery as being in the first instance mainly, if not exclusively, employed for vegetable food. All the surviving pre-cibiculturists with the exception of the Esquimaux, who are necessarily almost entirely carnivorous, spend much time and care in cooking their vegetable food, often putting it through processes truly amazing in their complexity, while their animal food is either eaten actually raw (Fig. 6) or cooked in an altogether casual and haphazard fashion. Abundant evidence of this will be forthcoming in due course. Not less significant is the fact that the practice of eating raw or semi-raw animal food can be traced

FIG. 6.

Esquimaux girl eating raw seal. (After Peary.)

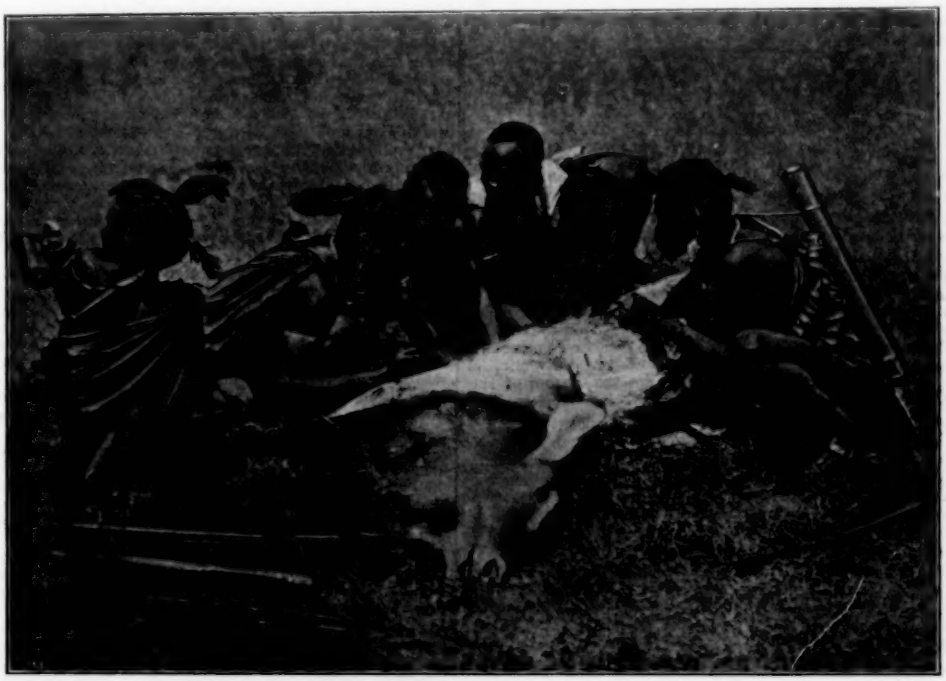
[7] In the British Museum are to be seen two beautiful nautilus shells used by the Andammanese as cups; also some large pinna shells which they use for plates.

[8] Bulletin de la Société d'Anthropologie de Bruxelles, 1893-94, p. 205.

down to modern times in peoples who have entered upon the cibicultural stage. Thus the Andorobo of Africa, having slain an animal, sit round the carcass and devour it raw (Fig. 7), and other cibicultural African tribes are known to drink the blood of animals, both living and dead, a practice which is even to this day followed in Europe. I have it from an eye-witness that a Swedish sportsman, when he shot a stag, put a flask to its cut throat and drank off the blood with gusto, a custom which clearly survives to this day among deer-stalkers in Scotland in the drinking to the words "more blood" a jorum of whisky by the body of the dead stag. Nor must we forget that even among moderns raw animal food is not discarded. Oysters and other shell-fish are eaten raw, raw ham is a common article of food on the continent, and a dish in which raw steak is the chief ingredient is by some gourmets greatly esteemed. Moreover, there is abundant evidence that the most delicately nurtured individual will in extremity devour raw animal food with avidity.

(To be continued.)

FIG. 7.



Andorobo eating dead carcass of deer. (Sir Harry Johnston.) Reproduced by permission of Messrs. Hutchinson, Publishers, London.

THE CITY ORTHOPÆDIC HOSPITAL.

IT will be remembered by our readers that some months ago the suggestion was made by King Edward's Hospital Fund that the three orthopædic hospitals in London should amalgamate and that two of the buildings being given up the combined hospital should be erected on a site in Great Portland-street. Two of these institutions fell in with the suggestion and after negotiation decided to unite their forces but the third, the City Orthopædic Hospital, for several reasons and after mature consideration, decided that such a union was not desirable. The chief reasons for this decision are as follows. The hospital is situated close to the poorest and most crowded part of the metropolis; it carries out a very large proportion of the work done by the orthopædic hospitals of London, for in the year 1903 it had 1705 new cases, whereas the National Orthopædic Hospital received only 976; a large majority of the patients of the City Orthopædic Hospital come from the East of London and therefore any transference of the hospital to a more western site would materially increase the distance which the patients would have to travel at every visit; further, the present site of the hospital is freehold, while the suggested site near the Portland-road station is leasehold; and, moreover, much money has been recently spent on the hospital buildings.

Two main arguments have been employed in favour of the proposed amalgamation. The first is that it is desirable on general grounds that there should be only one special orthopædic hospital in London, and this is, we understand, the main argument that appealed to King Edward's Hospital Fund. There is naturally much to be said in favour of one large orthopædic hospital in London, but, on the other hand, the very great size of London is often overlooked. For more than 6,000,000 people it is hardly unreasonable that there should be more than one such special hospital when we consider that in many far smaller cities it is thought advisable to establish such an institution. Another argument has, however, been brought forward against the continuance of the City Orthopædic Hospital on its present site. It is asserted that the situation of the hospital is unhealthy and that the buildings are unsuited for the purpose for which they are employed. The argument as to site would apply at least equally to St. Bartholomew's Hospital; but, indeed, the situation is fairly open and probably as healthy as any in the middle of a town could be. As to the general arrangements of the building and their suitability for use as a hospital we can bear witness, for, at the invitation of the honorary secretary, we have sent a representative to inspect the hospital. The main portion of the buildings consists of a large house which has been adapted to the requirements of the hospital but the wards are large and airy, and there is a clear through passage of air from the front to the back of the building, so that through ventilation is thoroughly obtained. The

number of beds is by no means excessive and the cubic space for each bed is ample. A large part of the hospital has recently been rebuilt and this has a frontage on to a neighbouring side street. Moreover, there has been much money expended during the last few years in bringing the hospital buildings and fittings up to date, so that it may be said that they are well adapted for the work that has to be carried on in them.

Although the City Orthopædic Hospital has not seen fit to adopt the suggestion to amalgamate made by King Edward's Hospital Fund, yet the latter body, recognising the value of the work done by the hospital, has continued the annual grant. The Hospital Sunday Fund, however, has decided to withdraw its grant merely because of the fact that the City Orthopædic Hospital has declined to amalgamate.

THE ENTRIES AT THE MEDICAL SCHOOLS.

THE appended table is compiled from information supplied to us by the kindness and courtesy of the deans and the secretaries of the various medical colleges and schools in London and in the provinces. From the figures set forth an estimate may be made of the number of individuals who have this year entered upon the study of medicine, but from causes, for the most part unavoidable, such estimate must be regarded as approximate only. At some of the universities only a partial medical curriculum is of necessity provided and the figures given in this case are founded on the number of first year students or on the average number commencing dissection. The clerk to the dean of the University of Birmingham informs us that "it is not the custom of this University to publish the entries in the various faculties."

ENTRIES FOR THE YEAR 1904–05.

London.

Name of medical school.	Full medical course.	Special courses and Prel. Sci.	Dental.	Full course, 1903–04.	Increase or decrease in full medical students over or under last year's figures.
St. Bartholomew's	60	51	—	80	– 20
Charing Cross	24	24	21[1]	18	+ 6
St. George's...	18	4	—	17	+ 1
Guy's	63	60	37	70	– 7
King's College	22	209*	—	20	+ 2
London...	53	115	—	67	+ 16
St. Mary's	44	25	1	42	+ 2
Middlesex	20	56	9	19	+ 1
St. Thomas's	41	14	—	48	– 7
University College†...	—	—	—	25	—
Westminster	13	16	2	10	+ 3
London School of Medicine for Women	24	18	—	36	– 12
Royal Dental Hospital of London	—	—	38	46	– 8
National Dental Hospital	—	—	6	10	– 4

Provincial.

University of Birmingham†... ...	—	—	—	—	—
University College, Bristol	20	7	2	12	+ 8
University of Cambridge	90	—	—	105	– 15
University College, Cardiff	11‡	—	1	13	– 2
University of Durham (College of Medicine), Newcastle-on-Tyne .. §	36	132	6	26	+ 10
University of Leeds...	20	27	1	24	– 4
University of Liverpool	20	1	4	24	– 4
University of Manchester	44	40§	28	51	– 7
University of Oxford	25	—	—	28	– 3
University of Sheffield	10	1	2	4	+ 6

[1] Last year there were 31 full dental.
* Including bacteriology and public health.
† No returns.
‡ First year students.
§ Prelim. Sci. only.

DISCUSSION ON PHYSICAL DETERIORATION.

UNDER the chairmanship of Sir T. LAUDER BRUNTON a discussion on Physical Deterioration took place in the library of the Sanitary Institute, 72, Margaret-street, London, W., on Oct. 20th, promoted by the Childhood Society for the scientific study of the mental and physical conditions of children.

The first speaker was Mr. E. W. BRABROOK who declared that, in his opinion, viewing the question from the broadest standpoint, there was no evidence pointing to general physical deterioration.

MRS. A. WATT SMYTH considered that there was no progressive or hereditary degeneration and that acquired characteristics were not transmitted; she therefore urged that means should be devised for removing those conditions which interfered with the proper development of the child and produced unfitness in the individual. Mothers should be prevented by law from doing work likely to affect themselves or their children injuriously. She laid particular stress on the necessity for infant milk depôts under medical supervision. She declared that no amount of after-care would ever build up the health of a child who had started life rickety and puny from ill-feeding and mismanagement. The question of feeding school children appeared to have become the question of the day, but though it was important and essential it always seemed to her that for philanthropists to give their sole efforts towards the solving of that problem while ignoring infant feeding and that period of childhood between infancy and school age was to deal only with the side issue of the main question. She thought that every child attending school should be taught cooking and she went so far as to advocate that boys should be taught cooking as well as girls. The older children would take turns to prepare dinners that each day would be eaten by all the children in the school. The simplest and most nourishing dishes should be selected and a clear explanation should be given of the properties of the food-stuffs used. Many a family not too badly off was starved through buying expensive food that did not necessarily contain the right nutritive properties. The cooking and the eating of dinners should be as much a matter of routine as reading and writing. At the present time mothers were unable to buy clean milk for their offspring. When the children entered school they were diseased and unhealthy and their lives were already badly damaged. Until it was realised that long before they entered school children were living helpless creatures needing care so long would a large percentage of them continue helpless creatures needing care to the very end of their lives.

Dr. ROBERT HUTCHISON, in discussing the question whether physical deterioration was taking place or not, said that it was possible that nature was producing by degrees a race of people who were best fitted to live in large towns. The individuals of that race would not be the kind of man of whom the recruiting sergeant would approve. Dr. Hutchison did not think that the man best suited to stand the wear and strain of life in London was the man of large frame, big muscles, and much bone. The reason was that the conditions of town life did not admit of a sufficiency of digestive power to enable a man to nourish a large frame. The small wiry tough sort of individual could get along in London with a comparatively small amount of food and so did not overstrain his digestive capacity. Whether there was actual physical degeneration going on or whether there was only a danger of it there could be no doubt that the food question was most important. If a man was adequately nourished he had resistance enough to withstand the action of a great many deteriorating influences. It mattered little, for instance, whether a man was adequately clothed so long as he was properly fed. The question even of housing was of less importance if the individual was properly fed because he could withstand the unfavourable conditions incident to bad housing. The food question, as the last speaker had said, affected especially two periods of existence: infancy and school life. Dr. Hutchison said that he could hardly agree with the last speaker that the mischief done in infancy was irreparable. One had only to look at the extraordinary improvement in the condition of boys in industrial schools after they had been swept up from the

gutter. These boys after a year or two exhibited extraordinary improvement. Turning to the question of food in infancy, Dr. Hutchison said that with the progress of civilisation the feeding of infants by their mothers had ceased to be a matter of natural instinct and had now become a science, if not a fine art. It must not be supposed nowadays that the untutored instinct of the mother was sufficient to secure the proper feeding of an infant. That was certainly true where the natural methods of feeding and a natural life were followed but modern civilisation had now changed all that. They did not know why it was that so few children were now fed by the natural method. It certainly was not a phenomenon peculiar to this country, for it was true of almost every civilised country. There seemed to be something in the higher grades of civilisation which rendered the natural method of feeding children difficult and almost impossible. They had to face the fact that in future mothers must be trained in the feeding of their children. That ought to be done widely and systematically and the method recommended by Dr. Hutchison was that simple directions for the rearing of babies should be handed to the parents of the children when a birth was registered. That plan was recommended by the Committee on Physical Deterioration and it was being carried out by some medical officers of health in certain districts. He would like to see that made a general and uniform procedure. He was certain that it would be of great use in preventing the feeding of infants on wrong lines. There was no use, however, in instructing mothers to feed children with cow's milk unless the community was wakened up to the fact that the supply of cow's milk in large towns was bad. It was, in fact, a disgrace to civilisation; it was worse, perhaps, in England than in any other country in Europe. It was simply a question of rousing the public conscience to insist that the quality of the milk should be improved and also that a sufficient quantity should be provided. In short, all mothers should be able to get plenty of good milk at a cheap rate with which to feed their infants. The two requisites during infancy, therefore, were proper instruction and a proper milk-supply. Turning to the question of school life, Dr. Hutchison said that here a different set of conditions had to be dealt with. There could be no doubt that many school children were inadequately fed and to some extent that was due to the inability of the parents to provide a sufficient supply of good food. That, however, was only part of the difficulty, for the ignorance of mothers and fathers as to the sort of food that children required had to be recognised. It was not an insufficient expenditure on food that was the cause in many cases but it was an expenditure on the wrong kind of food. Within recent years many articles of food had become much cheaper, for instance, sugar was a case in point, and it was an advantage to the community and to the children that sugar was cheap, but that brought with it a certain amount of danger, for the cheapness of that commodity and others tended to make the dietary of children too much of a starchy nature and not sufficiently composed of food-stuffs necessary for the building up of bone and for the formation of blood. Instruction should be given on the values of food-stuffs so that the money would be expended more wisely. How that was to be done he was unable to say: it seemed almost hopeless to get an average mother in the lower classes to understand the difference between the values of food-stuffs, but he thought that something might be done by teaching in the schools. He urged that every effort should be made to curtail the excessive consumption of white bread and tea, for that was a great evil in the dietary of the working classes in this country, and he also added that there was too much jam eaten. If for one of these bread-and-jam meals a meal of porridge and milk could be substituted a great deal would be done towards the prevention of physical deterioration. From the scientific point of view great benefit would accrue to the community if every child at school had a suitable meal, but how that was to be done raised serious difficulties, though in regard to the advisability of such a plan there could be no doubt. Dr. Hutchison then referred to the enormous amount of alcoholic beverages drunk. Alcohol, he said, was of course a food viewed from a scientific standpoint, but it had to be remembered that it was one of the dearest foods and certainly from every aspect the worst. If only one-half the money that was spent on beer was spent on food for children then the necessity for considering the question of physical deterioration would not exist.

Dr. G. E. SHUTTLEWORTH said that his views on the subject were in harmony with those which appeared in the report of the Committee on Physical Deterioration. With regard to European populations he thought that there was evidence of physical unfitness. He referred to the modern intolerance of any abnormality and endorsed what the previous speakers had said about necessary instruction of mothers in the care of infants.

Dr. F. WARNER discussed the pressing necessity for studying the circumstances attending the defective growth of the head, brain, and features in children and the concurrent conditions of body. He drew attention to the causes that might lead to a state of ill-development and contrasted these conditions with those which might lead to states of ill-health.

Professor C. S. SHERRINGTON emphasised the importance of the food question in this subject. He said that Dr. Hutchison had referred in despairing tones to the unlikely prospect of parents in the uninstructed classes being taught to distinguish between the values of different foods but Dr. Hutchison himself had suggested the method of dealing with the problem and that was by teaching the future generations through the school teachers.

Mr. J. GRAY, of the anthropometric committee of the British Association, referred to the scheme for the anthropometric survey of the United Kingdom submitted by Professor D. J. Cunningham and himself which provided for the formation of a national bureau and for the supply of surveyors or measurers. He urged that the Government should be induced to establish the system.

Mr. P. SIDNEY SPOKES, Miss ALICE RAVENHILL, Mrs. BURGWIN, Dr. J. KERR, and Mr. A. B. KINGSFORD continued the discussion which was concluded by Sir Lauder Brunton who pointed out the necessity for all the societies interested in the subject combining together to bring pressure to bear upon the Government.

MEDICINE AND THE LAW.

Lithgow v. Gibb.

IN Scotland an important case has been won by the medical officer appointed jointly by three bodies of employers and by their respective workmen to attend the latter. Dr. J. Lithgow, the plaintiff or "pursuer," had held the position indicated for 13 years and his action was against one of the bodies of employers, a joint-stock company, formed since his appointment. This company had given him notice summarily to terminate his appointment and had withheld the subsequent fees for which he sued. The finding of the sheriff court of Lanarkshire was in his favour and the appeal which has now been heard and decided by Mr. Sheriff Guthrie, the sheriff principal, was upon points of law. These are stated and explained clearly in his judgment and are instructive to all medical men seeking office under commercial bodies as medical attendants to their workmen. This case and the recent one of the medical officer to the Ballachulish slate quarries show how arbitrary a treatment may be meted out to the medical man if the terms of his employment render it possible. The sheriff principal "deserned" in favour of the pursuer and allowed him costs on the higher scale, the justice of which will not be disputed by those who read his observations on the defences raised. After stating his decision that Mr. Sheriff Boyd who heard the case was right and that Dr. Lithgow had not been competently removed from his position he went on to say:—

It was contended on various grounds that there is no contract of employment which can be enforced. The defenders, I think, have failed in each of their contentions. It is said that as the pursuer founds on an agreement to last for years made in 1892, that agreement cannot be proved but by writ or oath. I do not think this is sound. There was an appointment or a contract—the name is not material—whereby the pursuer became medical officer for three works at Cleland. The appointment was made by a committee of workmen, acting along with the employers, and it was agreed that the removal of the pursuer should rest with the committee which appointed him. It is, of course, not implied that that committee should be composed of the same individuals. Obviously it was to be a committee representing in the same way the three works. Now, the pursuer continued for 12 or 13 years to act as doctor for the works and to receive payment in the usual way from the owners of the subscriptions of the men. It was a contract of service for a year if not reduced to writing and it was continued from year to year by the actings of both parties. This is practically admitted by both parties and it is simply a plea of despair to argue that the pursuer must fail because he has not a written agreement. Again, it is said that the agreement cannot be enforced against the defenders, because they are a limited company, which succeeded in 1898 or 1899 to the business of the same name which was a party to the

arrangement of 1892. There is no plea or statement on record to this effect and that fact is not surprising when it is considered that the defenders have been going on since they acquired the works, treating the pursuer as the medical attendant of the works and paying him the deducted contributions of their men. Other objections to the judgment were stated of an equally flimsy nature—so flimsy that it is needless to notice them. The sum of the matter, so far as the present action is concerned, is that the defenders hold certain moneys collected for the medical adviser of their men and which can be paid to no one but the pursuer so long as he holds that office. It is conceded on all hands that he held that office and was entitled to these moneys till Feb. 28th, 1903. It may be a question how the pursuer could be validly removed from his office. For the purpose of ascertaining whether the balance of a quarter's drawings is properly retained it is unnecessary to determine what was the correct method of putting an end to the pursuer's engagement so far as it had to do with the defenders works. But it is clear that such an engagement could only be determined by reasonable warning. I am of opinion that warning for the end of the quarter is the very shortest that could be held sufficient and that is enough to support the judgment. I do not need, however, to observe this strict economy in assigning grounds of judgment. For I think that I agree with what was probably Sheriff Boyd's opinion, that there is no sufficient evidence of any resolution of a majority, even of the defendants' men, to dispense with his services. Whether it was necessary that the other works which were parties to the arrangement of 1892 should be consulted is, I think, a question that may be put aside. More than the mere money value recovered is concerned in this action and I do not think it necessary to interfere with the judgment in the matter of expenses.

A Shocking Case of Child Neglect.

A case of gross cruelty to an illegitimate infant, aged 12 months, was lightly punished with four months' imprisonment at the South-western Police-court on Oct. 24th. The child was left with his mother's mother, herself only 37 years of age, and was kept for some weeks during the day in a back garden tied to a chair with a piece of string. This apparently was not complained of by the neighbours who must have been aware of it, and evidence was given to the effect that the grandmother was rarely sober. Eventually the dead body of the little boy was found in a sack bearing marks of violence which the accused accounted for with a story of a fall from the chair. This was disproved by medical evidence given by Dr. L. Freyberger who deposed to fractures of the ribs on both sides, laceration of the lungs, and an entire absence of food in the stomach. He did not consider that what he saw in any way bore out the story of the child having fallen. It is to be regretted that cases of this kind should not be brought before it is too late to the notice of the police or of the society which relieves them of a large portion of their duties towards neglected and cruelly treated children.

ANNUAL REPORT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE Council of the Royal College of Surgeons of England has just issued its annual report which is to be laid before the yearly meeting of the Fellows and Members on Nov. 17th.

There are in the report many items of interest and importance. The first that may be mentioned concerns the differences of opinion between the Council of the College and the General Medical Council on the question of the regulations of the Conjoint Examining Board in England for its first examination in physics, chemistry, and biology. The Conjoint Board of its own initiative has made most of the alterations subsequently suggested by the General Medical Council. The main alterations are the institution of a separate examination in physics and of a written paper in biology in addition to the *viva-voce* examination as at present. The final examination in surgery has also come under the criticism of the General Medical Council and exception has especially been taken to the practical examination not including operations on the cadaver, and to the absence of special examinations in ophthalmic and aural surgery. On both these points the Council of the College maintains its opinion that these additions are impracticable, but it has acted on the advice of the General Medical Council in reforming the system of marking.

The question of instituting an examination and diploma in tropical medicine and hygiene has received much consideration during the past year at the request of the Secretary of State for the Colonies, and after prolonged discussion between representatives of the Royal College of Surgeons of England and of the Royal College of Physicians of London it was decided to appoint visitors to attend the examinations of the London School of Tropical Medicine and to report upon the scope of the course of study and of examination, and to request the naval, military, and colonial authorities to allow the visitors to attend their examinations in tropical medicine for a similar purpose; at the end of a year a report is to be presented by the visitors to the two Royal Colleges.

The College has taken an important part in the discussion on the physical disability of recruits for the army; some of its opinions were given in the annual report presented last year. In this report there is a correspondence with the clerk of the Privy Council, in the course of which the Council of the College give it as its opinion that the two principal matters to be considered are, first, an inquiry into the causes and present extent of the physical unfitness for military service that exists in a large degree among certain classes of the population; and, secondly, the institution of measures which may bring about an improvement of the physique of the classes from which most of the recruits are at present drawn. The proposed anthropometric survey of the United Kingdom has also met with the approval of the Council.

It is well known that the two Royal Colleges have for some years past prepared antidiphtheritic serum for the Metropolitan Asylums Board hospitals, and at the time when this was first done the use of antitoxins was less assured than it is at present, and the action of the two Colleges was doubtless of public benefit; but now antitoxin of good quality is readily obtainable from other sources, and if the Colleges wished to maintain a sufficient and constant supply it would be necessary for them to increase the present stud of horses and to build larger stables and laboratories. In these circumstances it has been decided to terminate the agreement with the Metropolitan Asylums Board and notice to this effect has been given to that Board.

The financial state of the College is satisfactory though there has been a slight falling off in the amount of fees, but there also has been a decrease in the expenditure of the College and the balance of income over expenditure amounts to £2794, a larger sum than any realised for some years past, so that it has been possible to invest £2500 and to redeem the land tax on portions of the College property. In this matter of finance it is of great value to investigate more closely the sources from which the income of the College is derived. From the fees paid by candidates for the Membership £12,032 were received and the expenses of conducting these examinations amounted to £8939—and this amount includes many items which do not wholly belong to these examinations such as the whole rent, rates, and taxes of the Examination Hall—so that there is a clear profit from the Membership examinations of considerably over £3000 each year. From the candidates for the Fellowship examinations £2769 were received in fees, while the expenses incurred solely for these examinations were £2333 without reckoning any of the cost of the Examination Hall, so that the amount derived from the Fellowship examination is much under £500, and probably less than £200, if a fair proportion of the general expenses of the Examination Hall be deducted. Thus it will be seen that very much more of the income of the College is obtained from the fees of candidates for the Membership than from the fees of candidates for the Fellowship of the College.

The last section of the report deals with the losses sustained by the College by death. Two former Presidents of the College, Mr. John Birkett and Sir John Simon, K.C.B., have died and two other past members of the Council, Mr. T. R. Jessop and Mr. George Lawson, and a past secretary, Mr. Edward Trimmer, have also died. The report further records the death of one honorary Fellow, the Marquis of Salisbury, and 29 Fellows. It will be remembered that last year for the first time the names of Members of the College who died during the year were contained in the annual report and this has been also done this year, so that we learn that in the collegiate year now concluded 269 Members and five Licentiates in Dental Surgery died.

The report also contains the names of nine Fellows whose addresses have not been known for many years and the secretary is anxious to obtain information as to whether they are still alive.

It will thus be seen that when the Fellows and Members meet at the College in November there will be many subjects for discussion and we must acknowledge that a report such as this is valuable as showing the amount of work done by the Council in a single year.

Looking Back.

FROM

THE LANCET, *SATURDAY*, OCT. 28, 1826.

THE FRENCH SCHOOLS.

[*From our Correspondent.*]

PARIS.—No. 1.

Dans un pays libre, on crie beaucoup quoiqu'on souffre peu: dans un pays de tyrannie, on se plaint peu quoiqu' on souffre beaucoup.—CARNOT.

All the public places of amusement, the French Opera excepted, pay a tax of *ten per cent.* on their receipts toward the support of the hospitals; and nearly a fourth of all the entrance duties collected at the barriers, is devoted to the same object. A heavy tax for their support is also levied on every piece of ground purchased for the purpose of burial in the cemeteries.

The general administration form a board, which is attended daily by medical men to examine the patients who apply for admission; by means of which arrangement, the physician of any hospital, whose attention is directed to any particular class of diseases, may have certain patients sent to the hospital to which he is attached. Thus it happens that the cases of fistula in ano, are sent to Baron BOYER at the Charité, because, nobody knows how, the old gentleman has got a peculiar reputation for *cutting* for this complaint, a reputation which he well deserves, as he generally contrives to cut the unfortunates once in a fortnight, and sometimes more frequently. According to the same system, the diseases of the skin are, for the most part, sent to ALIBERT and BIETT, at the hospital St. Louis; and very deservedly so, since there is no place in Paris where these diseases receive more attention, or are more successfully treated. The patients labouring under diseases of the heart and lungs were sent to the wards of LAENNEC, for the benefit of the *auscultants*, or Laennec's *trumpeters*, as they have been maliciously called by some; the syphilitic patients are all despatched to the Hospital de Veneriens, to drink Sydenham's decoction and Van Swieten's liquor, under the superintendence of uncle CULLERIER and his nephew Jaques; whilst all ailing bantlings are sent to suck oxymel of squills and syrup of poppies, under the direction of JADELOT, in an establishment especially set apart for the study of juvenile pathological anatomy.

The Bicêtre and Salpetriere receive the crazy and cracked members of the Parisian population,—a community of which PINEL, ESQUIROL and PARISET are the mayor and common-council-men. Then, lastly, there is the *Maternité*, where the young ladies of Paris find a very convenient asylum, when it is reported necessary that they should go into the *country* for change of air.

The *central bureau*, or general administration, is attended with many advantages, and some disadvantages; the influential men procure the best cases, and some of the most deserving men have nothing to do but to treat ulcers, *gastro-enterites*, and chronic rheumatisms. Accidents and urgent cases are admitted into the hospitals in their immediate neighbourhood, without the observance of this ceremony.

In general, the hospitals of Paris are clean and well managed, for which they are not a little indebted to the *Sœurs de la Charité*, and females of other religious orders who devote themselves to the care of the sick, and "watch over the interests of the Charity." Notwithstanding all this, they are not to be compared with our hospitals, either in point of ventilation, elegance or cleanliness. The tiles of which the flooring of some hospitals is composed, give a sombre appearance to the wards, which at the same time are frequently badly lighted, and almost always irregularly built.

The *number of beds* in the several hospitals and hospices, is about *fourteen thousand*, and the revenues of the institutions amount to more than *nine millions and a half of francs*. The mean number of beds in the hospitals, occupied at the same time, is about four thousand two hundred, and the mean annual expense of each bed, is 603 francs, about 24*l*. The mean expense of the *hospices*, which must be distinguished from the hospitals, as it is a term applied to those buildings for the reception of the aged, infirm, and foundlings, is 2,958,823 francs; and their ordinary number of inmates is nine thousand eight hundred persons, each of whom costs about 18 sous a day, a sum equal to nine pence.

By far the greatest number of the Parisian hospitals are supported by the Government in the manner before pointed out; and even those which were originally private foundations, as the Hospitals Beaujon, Necker, and Cochin, are, with the former, submitted to the superintendence of the "*Administration generale*" of the civil hospitals and infirmaries.

The patients who wish to get admitted into any of these institutions apply to the Bureau central, which is situated just in front of the entrance to the Hôtel Dieu, in the parvis Nôtre-Dame. At this Bureau certain physicians and surgeons attend to examine the patients, to send those whose cases require to the hospitals, and to give advice, support, trusses, &c. to such as may not be ill enough to go to a hospital. Assistance is given in this manner to from 10 to 11,000 persons in the course of the year.[1]

REPORT OF THE MEDICAL OFFICER OF HEALTH OF SHANGHAI FOR 1903.

Dr. Arthur Stanley in his report of the health department to the Shanghai municipal council for the year 1903 states that the death-rate amongst European residents in the city amounted to 15·9 per 1000 per annum against 18·1 in 1902, and that the death-rate amongst Chinese was 21·2 against 30·9 in 1902. During the years 1902 and 1903 the following were the mortality returns for some of the principal ailments: scarlet fever, 1500 and 2; small-pox, 434 and 241; cholera, 1500 and 162; and tuberculosis, 2000 and 1978 respectively. Amongst the resident foreign population, estimated at 8300, the principal causes of death were: tuberculosis, 26; typhoid fever, 13; cardio-vascular diseases, 13; and acute diarrhœa, 11. Tuberculosis is very prevalent amongst the Chinese, 1 in 4 of all deaths arising from this cause, signifying overcrowding and insufficient air space in the Chinese quarters. Plague, although it has frequently threatened Shanghai, has fortunately not gained an entrance to the city; notwithstanding this immunity the health department has kept a supply of Haffkine's plague prophylactic ready in the city laboratory. Malaria, although it caused no deaths, occasioned a considerable amount of fever, mostly of the benign tertian type. Beri-beri was less prevalent in Shanghai during 1903 than for several years. The cases and deaths from beri-beri during the past four years have been as follows: 1900, cases 52, deaths 10; 1901, cases 281, deaths 47; 1902, cases 117, deaths 23; 1903, cases 46, deaths 6. At the gaol a special diet was given during 1903, in which crushed barley and beans replaced part of the rice ration. There was practically no beri-beri amongst the prisoners during 1903. At the public health laboratory a great deal of good work has been done. No fewer than 530 specimens were sent for examination and report to the bacteriological laboratory; 100 analyses of milk and drinking water were made; 12,000 tubes of glycerinated small-pox vaccine were sent out during the year; Haffkine's plague prophylactic, mallein, and tuberculin have been prepared and issued; diphtheria antitoxin and cholera antitoxin have been supplied; and 47 persons were treated by Pasteur's anti-rabic treatment. At the end of the report is a paper by Dr. Stanley on Chinese Hygiene, reprinted from the *China Medical Missionary Journal* for April, 1903. The article is interesting in itself and also in showing how a person, brought up in the narrow school of Western teaching, becomes after a time more open-minded in regard to the habits, customs, and even social and sanitary ways of Eastern peoples. Dr. Stanley states that "from a hygienic aspect many of the modes of living of the Chinese are better than those of modern Europeans," and everyone who knows China and is not hedged around by ignorance and prejudice will agree with him.

[1] Excerpts only have been transcribed.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8345 births and 4661 deaths were registered during the week ending Oct. 22nd. The annual rate of mortality in these towns, which had been 15·6, 15·1, and 15·2 per 1000 in the three preceding weeks, further rose to 15·9 per 1000 last week. In London the death-rate was 16·6 per 1000, while it averaged 15·6 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·1 in Hornsey, 8·3 in Willesden and in Wigan, 8·6 in Smethwick, 8·7 in Croydon and in Handsworth (Staffs.), and 8·9 in Reading, in Rotherham, and in Cardiff; the highest rates were 20·0 in Middlesbrough, 20·3 in Bootle, 20·4 in Stockport, 22·4 in Liverpool, 22·6 in Tynemouth, 23·2 in Salford, 23·3 in Burnley, and 23·7 in Hanley. The 4661 deaths in these towns last week included 532 which were referred to the principal infectious diseases, against 836, 615, and 573 in the three preceding weeks; of these 532 deaths, 206 resulted from diarrhœa, 127 from measles, 75 from diphtheria, 47 from "fever" (principally enteric), 42 from whooping-cough, 30 from scarlet fever, and five from small-pox. No death from any of these diseases occurred in Croydon, Bournemouth, Devonport, Coventry, Wallasey, Rochdale, or Cardiff; while they caused the highest death-rates in Plymouth, Grimsby, Liverpool, Bootle, Salford, Burnley, Preston, and Hull. The greatest proportional mortality from measles was recorded in Plymouth, Walsall, Grimsby, Birkenhead, Liverpool, Salford, Halifax, and Tynemouth; from scarlet fever in Burnley; from diphtheria in Bootle and Salford; from "fever" in Grimsby, Stockport, and Wigan; and from diarrhœa in Great Yarmouth, Oldham, Burnley, Preston, Middlesbrough, and Rhondda. The mortality from whooping-cough showed no marked excess in any of the large towns. Of the five fatal cases of small-pox among persons resident in these towns two belonged to Newcastle-on-Tyne and one each to Nottingham, Bury, and Preston. The number of small-pox patients in the Metropolitan Asylums hospitals, which had been three, two, and one at the end of the three preceding weeks, was again one at the end of last week. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday, the 22nd inst., was 2687, against 2158, 2341, and 2516 on the three preceding Saturdays; 389 new cases were admitted during the week, against 406, 409, and 377 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 167, 166, and 194 in the three preceding weeks, further rose to 251 last week and were 57 in excess of the number in the corresponding period of last year. Influenza was stated as the primary cause of 16 deaths in London last week, against nine, ten, and 22 in the three preceding weeks. The causes of 47, or 1·0 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Salford, Leeds, and in 51 other smaller towns; the largest proportions of uncertified deaths were registered in Wallsall, Birmingham, Liverpool, Sheffield, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 16·6, 15·1, and 15·8 per 1000 in the three preceding weeks, further rose to 16·5 per 1000 during the week ending Oct. 22nd and was 0·6 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·8 in Perth and 13·5 in Greenock, to 18·0 in Paisley and 20·1 in Leith. The 547 deaths in these towns included 26 which were referred to diarrhœa, 17 to whooping-cough, eight to measles, eight to diphtheria, seven to "fever" (including one to typhus), and four to scarlet fever, but not any to small-pox. In all, 70 deaths resulted from these principal infectious diseases last week, against 101, 71, and 75 in the three preceding weeks. These 70 deaths were equal to an annual rate of 2·1 per 1000, which was 0·3 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 58, 36, and 31 in the three preceding weeks, further declined last week to 26, of which 17 occurred in Glasgow, four in Dundee, two in Edinburgh, and two in Leith. The deaths from whooping-cough, which had been 23, 20, and 21 in the three preceding weeks, declined again to 17 last week, and included 15 in Glasgow. The fatal cases of measles, which had been three and five in the two preceding weeks, further rose last week to eight, of which five were registered in Aberdeen and three in Glasgow. The deaths referred to "fever," which had been six in each of the two preceding weeks, increased to seven last week, and included four cases of enteric fever and one of typhus in Glasgow, and two of enteric fever in Greenock. The four fatal cases of scarlet fever corresponded with the number in the preceding week, and included two in Aberdeen. The deaths referred to diseases of the respiratory organs in these towns, which had been 75, 73, and 76 in the three preceding weeks, further rose last week to 95, and were slightly in excess of the number in the corresponding period of last year. The causes of 11, or more than 2 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·0, 17·5, and 21·6 per 1000 in the three preceding weeks, rose again to 24·9 per 1000 during the week ending Oct. 22nd. During the past four weeks the death-rate has averaged 20·8 per 1000, the rates during the same period being 14·8 in London and 14·2 in Edinburgh. The 181 deaths of persons belonging to Dublin registered during the week under notice were 24 in excess of the number in the preceding week and included 18 which were referred to the principal infectious diseases, against 19, 15, and 12 in the three preceding weeks; of these, 11 resulted from diarrhœa, six from measles, and one from diphtheria, but not any from small-pox, scarlet fever, whooping-cough, or "fever." These 18 deaths were equal to an annual rate of 2·5 per 1000, the death-rates last week from the principal infectious diseases being 1·3 in London and 0·9 in Edinburgh. The fatal cases of diarrhœa, which had been 16, ten, and eight in the three preceding weeks, rose again last week to 11. The deaths from measles numbered six last week, none having been recorded in any of the three preceding weeks. The 181 deaths in Dublin last week included 63 of children under one year of age and 42 of persons aged 60 years and upwards; the deaths of infants showed a considerable excess while those of elderly persons were but slightly more numerous than in the preceding week. Five inquest cases and three deaths from violence were registered, and 57, or nearly a third, of the deaths occurred in public institutions. The causes of 11, or more than 6 per cent., of the deaths in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING SEPTEMBER, 1904.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 8·0 per 1000 of the population, estimated at 4,648,950 persons in the middle of the year. In the three preceding months the rates had been 5·4, 6·1, and 6·0 per 1000 respectively. The rates were considerably below the average in Kensington, Chelsea, the City of Westminster, Lambeth, Greenwich, and Lewisham; while they showed the largest excess in St. Pancras, Stoke Newington, Hackney, Bethnal Green, Stepney, and Poplar. The notified cases of small-pox, which had been 60, 32, and four in the three preceding months, were again four last month, and included two in Camberwell, one in Wandsworth, and one in Woolwich. The Metropolitan Asylums hospitals contained three small-pox patients at the end of last month, against 74, 46, and nine at the end of the three preceding months; the weekly admissions averaged one, against 13, eight, and one in the three preceding months. Scarlet fever was much more prevalent during September than in any other recent month; the greatest proportional prevalence of this disease occurred in St. Pancras, Stoke Newington, Hackney, Finsbury, Bethnal Green, Stepney, and Camberwell. The number of scarlet fever patients in the Metropolitan Asylums hospitals, which had been 1599, 1764, and 1801 at

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING SEPTEMBER, 1904.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1904.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,648,950	4	1366	634	1	313	3	13	506	—	2840	8·0	—	38	28	64	46	—	39	2	626	843	2·4	5003	14·0	146
West Districts.																										
Paddington	146,975	—	46	13	—	3	—	—	16	—	78	6·9	—	—	3	1	1	—	—	—	20	25	2·2	142	12·6	165
Kensington	179,236	—	17	11	—	7	1	—	15	—	51	3·7	—	—	1	2	2	—	—	—	20	25	1·8	157	11·4	146
Hammersmith	117,412	—	29	19	—	3	—	—	7	—	58	6·4	—	—	—	—	2	—	—	—	6	8	0·9	95	10·5	88
Fulham	152,482	—	29	24	—	5	—	—	11	—	69	5·9	—	—	—	2	2	—	—	—	24	28	2·4	164	14·0	162
Chelsea	74,329	—	1	5	—	2	—	—	4	—	12	2·1	—	—	—	—	1	—	—	—	8	9	1·6	76	13·3	129
City of Westminster	177,321	—	28	8	—	6	—	—	9	—	51	3·7	—	1	1	—	3	—	—	1	5	11	0·8	164	12·1	86
North Districts.																										
St. Marylebone	130,337	—	29	13	—	12	—	—	20	—	74	7·4	—	1	—	2	—	—	—	—	10	13	1·3	129	12·9	108
Hampstead	86,663	—	14	3	—	3	—	2	12	—	34	5·1	—	—	—	—	—	—	2	—	1	3	0·5	57	8·6	87
St. Pancras	235,936	—	104	24	—	31	—	—	30	—	189	10·4	—	8	2	3	2	—	2	—	20	37	2·0	279	14·9	149
Islington	341,044	—	118	32	1	27	—	1	30	—	209	8·0	—	5	4	4	5	—	4	—	48	70	2·7	296	15·1	152
Stoke Newington	52,445	—	22	14	—	1	—	—	5	—	42	10·4	—	—	1	—	—	—	—	—	3	4	1·0	54	13·4	125
Hackney	226,266	—	105	39	—	45	1	1	28	—	219	12·6	—	2	1	5	2	—	4	—	30	44	2·5	223	12·8	138
Central Districts.																										
Holborn	57,161	—	8	2	—	4	—	1	11	—	26	5·9	—	1	—	—	1	—	—	—	5	7	1·6	60	13·7	90
Finsbury	98,958	—	39	15	—	2	—	1	17	—	74	9·7	—	1	1	—	1	—	1	—	19	23	3·0	144	19·0	151
City of London	23,482	—	3	5	—	—	—	—	2	—	10	5·6	—	—	1	—	—	—	—	—	—	1	0·6	21	11·7	43
East Districts.																										
Shoreditch	117,033	—	28	14	—	5	—	1	26	—	74	8·2	—	—	1	1	3	—	3	—	17	25	2·8	136	15·1	144
Bethnal Green	130,207	—	93	34	—	9	—	—	25	—	161	16·1	—	1	1	9	—	—	—	—	26	37	3·7	194	19·4	178
Stepney	303,791	—	139	102	—	37	—	4	57	—	339	14·5	—	3	3	8	4	—	7	—	53	78	3·3	418	17·9	109
Poplar	169,905	—	51	70	—	18	—	—	15	—	154	11·8	—	1	2	8	1	—	3	—	35	50	3·8	192	14·7	135
South Districts.																										
Southwark	207,937	—	51	13	—	14	—	1	24	—	103	6·5	—	1	1	1	3	—	2	1	34	43	2·7	277	17·4	154
Bermondsey	129,397	—	44	17	—	14	—	—	14	—	89	9·0	—	1	—	3	—	—	5	—	29	38	3·8	165	16·6	168
Lambeth	310,359	—	46	27	—	13	1	—	29	—	116	4·9	—	2	1	3	5	—	—	—	43	54	2·3	319	13·4	145
Battersea	175,465	—	29	22	—	7	—	—	12	—	70	5·2	—	1	2	2	2	—	1	—	19	27	2·0	173	12·9	139
Wandsworth	257,448	1	66	36	—	13	—	—	30	—	146	7·4	—	2	1	1	—	—	1	—	23	28	1·4	233	11·8	118
Camberwell	268,384	2	113	31	—	11	—	—	30	—	187	9·1	—	1	1	3	3	—	1	—	29	38	1·8	291	14·1	170
Deptford	113,509	—	28	24	—	5	—	—	13	—	70	8·0	—	2	—	4	—	—	1	—	20	27	3·1	128	14·7	184
Greenwich	101,651	—	19	7	—	4	—	—	4	—	34	4·4	—	2	—	—	1	—	—	—	21	24	3·1	95	12·2	135
Lewisham	140,401	—	29	3	—	3	—	—	5	—	40	3·7	—	1	—	1	1	—	1	—	23	27	2·5	110	10·2	133
Woolwich	123,416	1	38	7	—	8	—	1	5	—	60	6·3	—	1	—	1	1	—	1	—	35	39	4·1	121	12·8	160
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

the end of the three preceding months, had further risen to 2127 at the end of last month; the weekly admissions averaged 311, against 214 in each of the two preceding months. The prevalence of diphtheria was considerably in excess of that recorded in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in Stoke Newington, the City of London, Bethnal Green, Stepney, Poplar, and Deptford. The Metropolitan Asylums hospitals contained 871 diphtheria patients at the end of September, against 681, 763, and 818 at the end of the three preceding months; the weekly admissions averaged 131, against 95, 124, and 119 in the three preceding months. The notified cases of enteric fever averaged 78 per week during last month, against 22, 27, and 49 per week in the three preceding months; the greatest proportional prevalence of this disease occurred in St. Marylebone, St. Pancras, Islington, Hackney, Stepney, Poplar, and Bermondsey. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 62, 67, and 135 at the end of the three preceding months, had further risen to 237 at the end of September; the weekly admissions averaged 45, against 12, 15, and 29 in the three preceding months. Erysipelas was proportionally most prevalent in St. Marylebone, Holborn, Finsbury, Shoreditch, Bethnal Green, and Stepney. The 13 cases of puerperal fever notified during the month included four in Stepney, two in Hampstead, and one each in Islington, Hackney, Holborn, Finsbury, Shoreditch, Southwark, and Woolwich.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the several boroughs in which the deceased persons had previously resided. During the four weeks ending Oct. 1st the deaths of 5003 persons belonging to London were registered, equal to an annual rate of 14·0 per 1000; in the three preceding months the rates had been 12·5, 13·6, and 19·1 per 1000 respectively. The lowest death-rates in London last month were 8·6 in Hampstead, 10·2 in Lewisham, 10·5 in Hammersmith, 11·4 in Kensington, 11·7 in the City of London, and 11·8 in Wandsworth; the highest rates were 16·6 in Bermondsey, 17·4 in Southwark, 17·9 in Stepney, 19·0 in Finsbury, and 19·4 in Bethnal Green. The 5003 deaths from all causes included 843 which were referred to the principal infectious diseases; of these, 38 resulted from measles, 28 from scarlet fever, 64 from diphtheria, 46 from whooping-cough, 39 from enteric fever, two from ill-defined forms of continued fever, and 626 from diarrhœa. The lowest death-rates from these diseases last month were recorded in Hammersmith, the City of Westminster, Hampstead, Stoke Newington, and the City of London; and the highest rates in Bethnal Green, Stepney, Poplar, Bermondsey, Deptford, Greenwich, and Woolwich. The 38 fatal cases of measles showed a decline of 28 from the corrected average number; among the various metropolitan boroughs this disease was proportionately most fatal in St. Pancras, Islington, Holborn, Deptford, and Greenwich. The 28 deaths from scarlet fever were 19 below the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Paddington, Islington, Stoke Newington, the City of London, Poplar, and Battersea. The fatal cases of diphtheria numbered 64 last month, the corrected average number being 139; among the various metropolitan boroughs the greatest proportional mortality from this disease occurred in Hackney, Bethnal Green, Stepney, Poplar, Bermondsey, and Deptford. The deaths from whooping-cough, which had averaged 102 in the corresponding periods of the ten preceding years, declined last month to 46; this disease was proportionally most fatal in Hammersmith, the City of Westminster, Holborn, Shoreditch, and Lambeth. The 41 fatal cases of "fever" were 21 below the corrected average number; among the various metropolitan boroughs the highest "fever" death-rates were recorded in Hampstead, Hackney, Shoreditch, Stepney, Poplar and Bermondsey. The 626 deaths from diarrhœa showed a decline of 50 from the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Finsbury, Bethnal Green, Poplar, Bermondsey, Greenwich, and Woolwich. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was nearly 22 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 146 per 1000. The lowest rates of infant mortality were recorded in Hammersmith, the City of Westminster, St. Marylebone, Hampstead, Holborn, and the City of London; and the highest rates in Paddington, Bethnal Green, Stepney, Bermondsey, Camberwell, and Deptford.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeon T. D. Halahan to the *Scylla*. Surgeons: J. H. Lightfoot to the *Vivid*; J. W. Bird to the *Vivid* for Devonport Dockyard; R. R. Fasson to the *Excellent*, temporary; and H. C. Arathoon to the *Egmont*.

Staff Surgeon Ernest Courtney Lomas, D.S.O., has been promoted to the rank of Fleet Surgeon.

ROYAL ARMY MEDICAL CORPS.

Captain H. H. Norman proceeds to Woolwich for duty. Lieutenant J. E. Powell is held in readiness for service in India. Captain S. W. Sweetnam embarks for India for service in Madras. Colonel J. F. Williamson, C.B., takes up duty in India on the close of his active service with the Somaliland Field Force. Colonel W. J. R. Rainsford, C.I.E., is appointed Principal Medical Officer, Bermuda; and Lieutenant-Colonel P. H. Johnston, C.M.G., is appointed Principal Medical Officer, Jamaica. Lieutenant-Colonel S. C. B. Robinson is appointed to the charge of the Military Hospital, Colchester.

ROYAL MALTA ARTILLERY.

Robert Randon to be Surgeon-Lieutenant (with local and temporary rank) to complete establishment (dated Oct. 8th, 1904).

VOLUNTEER CORPS.

Rifle: 6th Volunteer Battalion the Royal Scots (Lothian Regiment): James Henry Horsburgh to be Surgeon-Lieutenant (dated Oct. 22nd, 1904). 1st Volunteer Battalion the Buffs (East Kent Regiment): Surgeon-Lieutenant C. M. Atkinson resigns his commission (dated Oct. 22nd, 1904). 1st Herefordshire: Brigade-Surgeon-Lieutenant-Colonel P. B. Giles is granted the honorary rank of Surgeon-Colonel (dated Oct. 22nd, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The London Companies: Surgeon-Lieutenant-Colonel J. Cantlie, 7th Middlesex (London Scottish) Volunteer Rifle Corps and Honorary Lieutenant-Colonel Commandant Maidstone Companies, Royal Army Medical Corps (Volunteers), is appointed to the Honorary Colonelcy of the London Companies (dated Oct. 22nd, 1904).

There will be a parade of the London Companies for Divine Service at the Church of St. Bartholomew the Great, West Smithfield, on Sunday, Oct. 30th, at 11 A.M., when the attendance of anyone interested in the Corps is cordially invited. The headquarters of the Corps are 51, Calthorpe-street, London, W.C.

THE CASE OF MAJOR N. P. SINHA, I.M.S.

We have had an opportunity of reading a copy of the memorial of Major N. P. Sinha, I.M.S., late civil surgeon of Rungpur, to the Government of India with its orders thereon, against which we understand this officer is about to submit an appeal to the Secretary of State for India. The papers setting forth the facts connected with the case are somewhat voluminous and do not easily lend themselves to any brief analysis. The case seems, however, to have arisen out of a charge of alleged neglect on the part of Major Sinha in not having complied with a telegram from the magistrate of Bogra asking him to proceed to that station to attend an assistant surgeon in civil medical charge of that district who was seriously ill and of having also been the cause of delay in not having more promptly furnished some requisite information by telegram. Apart from some corrected discrepancy about dates Major Sinha explains the circumstances in which he was placed at the time and expresses his regret for an unfortunate omission on his part, entirely attributable, he alleges, to an error of judgment in not having ascertained before leaving headquarters whether the information which he had received about the death of the Bogra civil medical officer was

correct or not. Owing to the occurrences in question Major Sinha was led to send in his resignation, but as he has 18 years' good service in civil and military employ and also on active service he has asked to be allowed to withdraw his resignation in order to qualify for a higher rate of pension. This can be done by his serving for a very limited time longer and by his being given the furlough to which he is entitled preparatory to retirement; or, in the alternative, by his being granted an extra pension of £100 per annum. This request has been refused and it is for the reversal of this decision that Major Sinha now seeks, as we have said, to appeal to the Secretary of State for India.

THE WARRANT OFFICERS OF THE ROYAL ARMY MEDICAL CORPS.

We have received a copy of a statement setting forth the case of the Royal Army Medical Corps warrant officers. It seems that the augmentations in the number of quartermasters, warrant officers, and non-commissioned officers of the corps which took place during the late war in South Africa have led to a number in each rank being supernumerary to the establishment at the end of the war and to a consequent stoppage of promotion. In order to make an opening for promotion for the non-commissioned officer's rank it is proposed, at least so it is alleged, to discharge warrant officers who have five years' service in that rank and 21 years' total service until the surplus is wiped off. As the Royal Warrant admits of warrant officers being continued in the service until 45 years of age and was previously to the war always acted upon they naturally feel aggrieved at the adoption of this policy and point out a method by which a solution of the question could be reached without giving rise to any sense of injustice among them. It is a matter on which we can express no definite judgment beyond saying that the case of these warrant officers deserves careful consideration on the part of the authorities.

THE LATE EXPEDITION TO LHASA.

Since we last wrote about this expedition it has been officially denied that we are to remain in occupation of the Chumbi valley pending the ratification of the treaty signed at Lhasa by the Chinese Government and the payment of the indemnity agreed upon by the Tibetans. If this be the case it seems to us a matter of regret, for the fortitude of the troops in enduring the great hardships of the expedition as well as the cost of it may turn out to have been in vain. The local authorities at Lhasa probably will not, or cannot, pay and those at Peking will hold out against ratifying the treaty with their approval. Meanwhile the British force has made its return march from Lhasa through the snow and in a blizzard, many of the native soldiers having had to be led along the route owing to snow blindness.

THE WAR IN THE FAR EAST.

That the attack on a flotilla of trawlers on the Dogger Bank on the part of the Baltic fleet was due to some terrible mistake cannot be doubted, and it is questionable whether the Government and authorities at St. Petersburg would not have preferred to lose a battle in Manchuria than to be subjected to the humiliating and indefensible position in which they now find themselves placed by their fleet. As to justification there is, of course, none, and the only plausible explanation of the occurrence is that which has been proffered—namely, that dominated by a fear of mines and torpedoes the Russian commanders were suffering from an attack of nerves and completely "lost their heads"—not, it must be confessed, a very fit frame of mind in which to encounter Admiral Togo's fleet if they ever reach Port Arthur. But that is no reason, however indignant we may justly feel, why we also should lose our heads. The lives of those who have been sacrificed cannot be restored. But we must believe that the Czar's Government will make all the amends possible in the circumstances. That in no case can Russia altogether remove the effect of the injury on herself which has been brought about by the blundering of those in command of her Baltic fleet is her national misfortune.

Referring, however, to the events of the war in Manchuria we may say that the series of battles there have been followed by a complete lull. But this is only for a time; the belligerent forces are facing one another and only separated from each other by a short distance; consequently another great and possibly more decisive battle has still to come off and is expected to occur very soon. Marshal Oyama reports that the total Japanese casualties in the battle of the Shaho were 15,879 officers and men killed, wounded, and missing. As regards the Russian losses the Field-Marshal estimates that the total number of Russian dead discovered since the beginning of the late battle is 13,333. Their total loss from all causes is variously estimated as from 45,000 to 60,000. As we have before remarked, the number of Russian prisoners taken by the Japanese is very small and contrasts favourably with what occurred in our own experience during the late Boer war in South Africa. This speaks well for the courage, determination, and discipline of General Kuropatkin's troops. Their losses in stores, guns, and ammunition, on the other hand, have been very large if we may judge by the Japanese lists of their captures. As regards Port Arthur, we have no accounts of the number of Japanese soldiers sacrificed in the course of their various assaults but these must have been very large.

A St. Petersburg telegram states that General Karavaieff, who was sent by Admiral Alexeieff to inspect the Japanese ambulance service on the railway, reports that the Japanese officers are doing their utmost to prevent the wounded being ill-treated. Isolated cases of ill-treatment, it is said, may have occurred but these must have been in the heat of battle. The Russian wounded, as well as the prisoners, are generally treated with all possible humanity. The Japanese ambulance service and the service for collecting the wounded upon the batt'e-field are, adds the Russian officer, admirably organised. The Japanese surgeons and their assistants work with the utmost devotion and show the same zeal for friends and foes.

Correspondence.

"Audi alteram partem."

THE BRITISH MEDICAL BENEVOLENT FUND.

To the Editors of THE LANCET.

SIRS,—It is well, as you observe, that we should sometimes have an outside view of ourselves and I have read with genuine satisfaction the letter of "A Layman" which appeared in your columns. He cordially approves of the way in which annuitants are elected and grants allotted and of the distribution of relief by instalments; his criticism also of our efforts to obtain money is evidently dictated by a desire to help the Fund.

It is scarcely necessary to say that the course he recommends of taking an office and employing an energetic paid secretary has often been seriously considered by the committee, but this would, of course, imply rent and a salary, which would amount to something considerable, and unless there were a large increase in the subscriptions and donations our poor clients would not profit. We have had, therefore, to consider the source of such possible increase and experience has taught us that we must rely mainly on our professional brethren, so that probably any extra expenditure would come out of their pockets, but perhaps our layman friend hardly realises the financial position of the medical profession or the amount they already do to provide for distress. He states, truly enough, that there are 37,000 medical men on the Register and suggests that a few shillings a year from each would enable us to afford effectual relief to all applicants. If there were fewer of us there would at the same time be a better chance of our getting these few shillings and a smaller demand for assistance, and as regards the half-crowns and five shillings to be picked up by honorary local secretaries under the whip of the energetic secretary I may say that attached to all the circulars calling for the subscriptions to the British Medical Association there is a request for a small amount for the British Medical Benevolent Fund.

In various parts of the country there are local provident societies and medical men subscribing to these and providing thus against misfortune in their own families and contributing to the relief of other members in their own neighbourhood do not feel called upon to do more. In many districts our honorary local secretaries find the ground occupied by such societies and we should be glad if there were more of them and if they were more generally taken advantage of. The society for

the relief of widows and orphans, of which my friend Mr. Christopher Heath is president, is one of them and is actually so prosperous that in addition to the pensions and annuities promised to subscribers of one guinea it is able to give a yearly bonus to those who become dependent on its help. We have also to remember the scholarships and annuities founded in connexion with Epsom College. I am quite ready to admit that more might be done than we have done, but it must be borne in mind that the columns of THE LANCET and the *British Medical Journal* have always been open to our appeals and we may well feel that their approval of our work carries weight which is probably quite the equivalent in value of even an energetic paid secretary.

I am, Sirs, yours faithfully,

Brook-street, W., Oct. 26th, 1904. W. H. BROADBENT.

MUNICIPALISATION OF MEDICAL SERVICE IN ZÜRICH.

To the Editors of THE LANCET.

SIRS,—An organisation of the kind you mention in your issue of Sept. 24th has been on trial in Zürich since last year but only on a small scale and the extension of this club system to all the inhabitants of Zürich is but a socialistic and Utopian project impossible of realisation because, as you truly remark, it is incompatible with the practical and ethical demands and requirements both of the medical and the lay public.

To put it into as few words as possible the matter stands thus. The medical claims of the indigent part of the population are more than amply provided for and there is reason to complain of hospital abuse. The poor are received at a minimum charge in the general hospital. The out-patient department of the University Hospital not only gives free advice and medicine to upwards of 100 patients a day but undertakes the visiting of all the poor at their homes within a three-mile radius. This work is done by the professor of the poly-clinic aided by a capable staff of eight young practitioners. Then a club (Allgemeiner Kranken-Verein) has existed for 20 years with the object of providing private medical attendance for a fee of about 10*s.* per annum. Only the poorer classes are admitted. The club has about 1500 members and there are eight medical men in attendance. Besides this a score of "medical aid clubs" give their members sums varying from 1 franc 50 centimes to 4 francs (1*s.* 2½*d.* to 3*s.* 2½*d.*) a day on the monthly payment of a similar sum. Here there was much abuse as the members often did not remunerate their medical attendants. The Society of Medical Practitioners, which was founded ten years ago and has done good work in the furtherance of the scientific and material interests of the profession, therefore established in 1902 a new club (Armenpflege) on the following principles. Each member pays an annual sum of 12 francs (9*s.* 8*d.*) a year (children at a lower rate), for which he receives free medical attendance and medicine and has a right of admission to various hospitals free of charge. The admission to hospital is controlled by the medical officers and care is taken that the average annual income of each applicant does not exceed £40 for a single person and £80 for the head of a family. There are about 3000 members and 40 medical men are in attendance. Each medical man is remunerated according to the minimum official scale adopted in accordance with the Poor-laws—namely, 1 franc (10*d.*) for a consultation at his house and 1 franc 50 centimes (1*s.* 2½*d.*) for a visit within a certain radius from his residence, outside which he can decline visits. Night visits are paid double and special examinations and operations are charged on a higher scale. This club, which has nothing to do with socialism, has progressed well so far. With great care on the part of the club officers there has been a small balance at the end of each year. This is of importance to the medical officers as they guarantee the concern financially; if there were a deficit the sums (varying from £2 to £50) due to each medical officer at the end of the year would be reduced *pro rata*.

Now, as to the socialist scheme. A socialist workmen's club, which is scarcely a year old and has as yet only 600 members, tried to engage the services of medical men at lower rates than the above-mentioned official minimum rates. The result was a total failure. Within 24 hours of the time when the circular of the socialist club was issued the Society of Medical Practitioners convened a meeting; within two days all the medical men in the town had been visited, and the Society for Medical Defence (Rechtsschutz Verein) convened a general meeting of practitioners. They decided to negotiate as a body with the socialist club and insisted on the following two conditions, namely—(1) that none but a duly qualified medical man in Zürich should be allowed to be elected as medical officer of the club; and (2) that no medical man in Zürich should offer his services at a lower rate than the above-mentioned official minimum rate. Owing to the absolute unity of the medical men the socialist club had to concede these demands and a committee of 12 medical men supervises the execution of the contract. A considerable number of medical men, chiefly junior practitioners with working-class practices, have accepted the post of medical attendants for members of the club. Though in the course of time it may double and treble the number of its members, it is most unlikely to encroach on the proper demands of the medical profession for sufficient remuneration on the part of the better half of the inhabitants, the more so as medical fees are lower in Switzerland than in other countries. (Fees are from 1*s.* 8*d.* to 4*s.* but seldom higher.) There can be no question of a division in equal shares of a "pool," and if the whole population joined this club the sum of £20,000 which is mentioned in your annotation would have to be divided among 160 practitioners. This would mean but a meagre annual income of £125—a sum which only juniors in their first years of practice would be contented with.

I am, Sirs, yours faithfully,

Zürich, Oct. 21st, 1904. YOUR SWISS CORRESPONDENT.

THE LATE PROFESSOR FINSEN.

To the Editors of THE LANCET.

SIRS,—A movement has been initiated in Denmark for the erection of a monument to the late Professor Finsen by national subscription. A committee has been appointed to carry the proposal into effect. It is thought that many members of the medical profession and of the public outside Denmark would be willing to join in doing honour to the memory of a man who worked unselfishly for the good of mankind, and I have been asked by the committee to bring the matter to the notice of my countrymen and if possible to form a British committee for the furtherance of the scheme. I shall be happy to receive the names of gentlemen willing to act. I am, Sirs, yours faithfully,

8, Harley-street, W., Oct. 19th, 1904. MALCOLM MORRIS.

SOME REMARKS ON THE CAUSATION AND TREATMENT OF HERNIA.

To the Editors of THE LANCET.

SIRS,—There have recently appeared in the medical journals two very interesting communications on the subject of hernia. One of these deals chiefly with the origin of hernia and the other with its treatment. I refer to the presidential address of Mr. R. Hamilton Russell, which was delivered before the Medical Society of Victoria, Australia, on Jan. 6th, 1904, and was published in THE LANCET of March 12th, p. 707; and to the paper read before the Oxford meeting of the British Medical Association, by Mr. Harold J. Stiles, entitled "The Operative Treatment of Hernia in Infants and Young Children," published in the *British Medical Journal* of Oct. 1st.

For my own part I firmly believe in the truth of Mr. Russell's contention as to the congenital origin of the so-called acquired hernia, but whilst admitting that the chief factor in the formation of a hernia is the presence of a congenital defect in the region concerned, it surely is not necessary to insist that the existing sac was in all cases completely formed at the time of birth.

Clinical experience teaches us that many cases of scrotal hernia in adults have been of gradual formation and it is only after some years that the hernia from being a bubonocele becomes scrotal. In such a case it is reasonable to suppose that the hernial sac has been to a large extent acquired, though probably having a congenital defect as a primary cause in the form of a slight patency of the upper part of the funicular process. At the same time it not unfrequently happens that a hernia appearing for the first time during adult life is found to be scrotal. In such cases the gut is frequently strangulated and to my mind such herniæ are clearly due to the presence of a congenital sac into

which the gut has been suddenly forced. The neck and body of the sac being narrow accounts for the frequency with which strangulation occurs under these conditions. The following is a case in point. A few months ago I was called upon to operate for strangulated hernia in a young man, 18 years of age. The man was engaged in work near the hospital and the swelling had suddenly appeared while he was lifting a heavy piece of timber. I operated a few hours after the occurrence of the accident. There was no previous history of a hernia. The hernia occupied the right inguinal region and extended to the upper part of the scrotum. The sudden appearance of a hernia of this size, the tightness of the strangulation at the neck of the sac, together with the general appearance of the sac and its surroundings, made it clear that the gut had for the first time descended into a sac which had existed since birth. I would also instance two other cases in support of Mr. Russell's view. Three weeks ago I operated on the same afternoon upon two patients for the radical cure of hernia; one was a man with an ordinary inguinal hernia which is usually regarded as acquired; the other an infant, two months of age, with an inguinal hernia which is usually regarded as congenital. In both cases the general arrangement of the sac was the same and it was quite unconnected with the tunica vaginalis testis.

Any surgeon who has operated frequently for the radical cure of inguinal hernia in infants and young children will, I am sure, agree with me when I say that the usual type of the sac is identical with that met with when operating upon an adult for what is generally considered as an acquired hernia. The typical congenital hernia as described in the text-books is comparatively rare. In the case of young children, at all events, it is generally admitted that the chief factor in the causation of hernia is the presence of a congenital sac. If the form of sac found in the child is usually identical with that found in the adult such evidence tends to strengthen materially Mr. Russell's contention that oblique inguinal hernia is invariably caused by the presence of a congenital sac. Has the acceptance of such a pathological belief any bearing upon the treatment of hernia? It certainly has, for if the belief in the congenital origin of most, if not of all, herniæ became general, then it is reasonable to suppose that the advisability of a radical cure by operation during infancy would be more seriously considered and, I hope, more frequently practised. If it can be proved that the operation during infancy can be carried out without undue risk to life, and with strong probability of the cure being permanent, then it is a method of treatment which will commend itself to the profession and to the public alike.

The chief cause which for many years deterred me from generally operating upon children under two years of age was, in the first place, the difficulty of the operation, and secondly the difficulty of keeping the wound clean. There is no doubt that in operating upon young children there is a very limited margin for error allowed to the surgeon. Still, after a little practice the operation is not attended with any real difficulty and the results obtained by Mr. Stiles are in themselves sufficient proof that in competent hands the operation may with safety be undertaken during infancy. As to the subsequent treatment of the wound, it is true there are certain difficulties in ensuring cleanliness, but these difficulties have been greatly exaggerated. In operating for the cure of hernia in an adult the weakened condition of the abdominal wall renders it difficult to obtain a permanent cure. The number of different operations devised for the cure of inguinal hernia alone is sufficient evidence of this. In infants, on the other hand, the method of procedure is comparatively simple. The details of the operation have been so recently and so clearly described by Mr. Stiles that I do not propose to dwell at any length upon this point. Excision of the sac (which in the vast majority of cases resembles the sac found in the so-called acquired hernia and is entirely separate from the tunica vaginalis testis) after having ligatured its neck as high up as possible is the essential point. In many cases this is all that is required, but when the hernia is a large one and the abdominal rings widely open I divide the aponeurosis of the external oblique with the double object of ensuring a high ligature of the neck of the sac, and subsequently, by means of mattress sutures, of overlapping the cut surfaces of the aponeurosis, thus narrowing the opening and strengthening the weakened abdominal wall. As regards the after-treatment I have always applied a dressing, for the pressure of the bandage tends to prevent oozing and favours the consolidation of the wound, otherwise the children have been secured in bed by means of straps and splints very much in the way Mr. Stiles adopts and which is admirably illustrated in his paper which I have already referred to. The age at which the operation should be performed must of necessity depend upon various conditions. I have mentioned a case in which I operated upon a child, two months of age, for a large scrotal hernia, but as a general rule if the health of the child and other circumstances permit of it I would select to operate between the fourth and sixth month. If in the meantime a good-fitting truss can be obtained it is advisable for the child to wear it. Should the hernia be a large one a truss will probably serve no useful purpose, for the pressure necessary to retain the bowel will be likely to irritate the skin over the future site of the wound; further, in these large herniæ there is very little likelihood of strangulation occurring.

In advocating early operative treatment I am perfectly well aware that many herniæ have been practically cured by means of a truss alone but such a "cure" must always remain problematical, it being quite impossible to know how far the exclusion of the bowel from the sac has resulted in the closure of the patent funicular process. In many cases no doubt the process does become obliterated but, on the other hand, it must be by no means uncommon for the process of obliteration to be so imperfect as to leave either a congenital sac into which, under the influence of a violent effort, the bowel may be suddenly forced and probably strangulated, or a diverticulum may remain at the upper end of the otherwise obliterated process, which by its presence weakens the abdominal wall and by becoming gradually distended results in the formation of a hernia. The argument in favour of early operative treatment rather than the prolonged use of a truss will apply with greater force in the case of the children of the labouring class than in those of better social standing.

I am, Sirs, yours faithfully,

R. W. MURRAY, F.R.C.S. Eng.,
Surgeon to the Northern Hospital, Liverpool; late Surgeon to the Liverpool Infirmary for Children.

Liverpool, Oct. 19th, 1904.

THE BOILING OF MILK.

To the Editors of THE LANCET.

SIRS,—I sympathise most warmly with Dr. F. W. Forbes Ross in the bold attempt he has made to bolster up his recommendation of dried milk by introducing such a large personal element into the reply to his critics. In adding a few more words to the controversy I trust I shall not wander beyond the facts and that I shall not ascribe to Dr. Forbes Ross or to anyone else statements which are not warranted. First, however, let me assure him that I made no "grudging admissions," that I did "consider and carefully read" his letter, that I am acquainted with his book, that I am unfortunately unaware of the pitfalls into which I have fallen, that my letter did not imply ignorance on his part, and that no word in it can be honestly assumed to indicate that the suggestion to use good dried milk is "senseless and devoid of practicability." These are all figments of a vivid imagination: "Aunt Sallies" which he has erected to practise his dialectic skill on. My letter was merely a humble protest against the proposal to add another proprietary food to the enormous number already in existence and against the recommendation of proprietary foods, new or old, for the preventive treatment of infantile diarrhœa. Logically it does not follow that I was accusing Dr. Forbes Ross of advocating the use of proprietary foods generally, although he appears to reason thus. Dried milk is what most of us understand as a proprietary food though, if the name is a "red rag" I am quite prepared to refer to it as *manufacturer's stuff*. The objections to such foods are sufficiently numerous and well known to need no further reference.

Of the many virtues claimed for the dried milk I limited myself almost entirely to a mild criticism of the statement that "pure milk can be made from it." Those are the words Dr. Forbes Ross used and yet he objects to my criticism and states that he "certainly did not say 'new milk'" and points out that "'pure milk' might be reasonably expected to mean milk free from bacterial and chemical impurity, &c." I quite agree with him but I neither stated nor supposed that he meant "new milk" fresh from the cow.

Still, your journal is a widely read one, outside our profession, and a grossly erroneous idea of the similarity of a solution of milk powder and pure milk might be entertained. I will express myself in even stronger terms so that there may be neither a misunderstanding nor a false assumption of my argument. The two fluids—viz., milk and a solution of a milk powder—are so different that they should not be compared at all. A comparison implies a considerable degree of similarity. Can beefsteak be made by the addition of water to a meat powder made by drying and pulverising beefsteak?

I absolutely disagree with the statement that "a moment's thought by *anyone* will at once tell *him* (the italics are mine) that a soluble, non-cheesy, non-mawkish, palatable milk powder cannot be prepared from anything but good, sound, fresh 'new' milk, &c.," and I feel very little doubt that most of the milk powders in the market are by no means ideal in their source or purity. Dr. Stuart Hallows[1] has examined many of these powders, but not the one specially recommended by Dr. Forbes Ross, and he found that "it does not appear that even the ordinary rudiments of cleanliness are observed." Anyone who reads his letter will agree with my scepticism when I ask, "What guarantee is there that the milk from which it (the milk powder) is prepared, is clean, fresh milk, devoid of bacterial contamination and the products of microbial life?"

Dr. F. P. Atkinson suggests that calves should be fed on unboiled and boiled milk and the results noted. Weber carried out such an experiment. He fed calves on skimmed milk, sterilised milk, and fresh milk for a period of five weeks and found that the nutritional value of the two former was practically the same, but very much less than that of fresh milk. Vassilieff by feeding experiments on young men and Koplik by like experiments on infants, came to the same conclusion.

The original point in the discussion put forward by Mr. R. Bevan and Mr. Cecil Revis—that boiled milk does not keep any better than unboiled milk and is more liable to putrefactive changes—I have not referred to. Boiled milk will not keep any better than unboiled unless it is at once cooled down and kept in the cold, excluded from the access of air. It is best kept in bottles plugged with sterile wool. I doubt whether we are justified in using preservatives when such a simple method is available. Personally I am convinced that the crying need is a supply of pure, clean, fresh milk, bottled at the farm and delivered to the consumer in bottles.

Pace Dr. Forbes Ross, my remarks on the subject are meant for other readers as well, so I trust he will not again divert the logic of his arguments by asserting that I am endeavouring to educate him in "archaic and futile information."

I am, Sirs, yours faithfully,

EDMUND CAUTLEY.

Upper Brook-street, W., Oct. 24th, 1904.

To the Editors of THE LANCET.

SIRS,—Before replying to Dr. F. W. Forbes Ross's letter in THE LANCET of Oct. 22nd I desire to explain the circumstances in which I intervened in the discussion. A short time ago the Inter-Departmental Committee on Physical Deterioration issued its report. In view of the difference of professional opinion in regard to the sterilisation of milk it recommended that a small body of experts should be appointed to determine the question. The matter was therefore *sub judice* and as I was responsible for the evidence which led the committee to refrain from recommending sterilised milk I took no share in the early part of this controversy on a subject in which I am keenly interested. But in THE LANCET of Oct. 1st Dr. Forbes Ross issued such a dogmatic challenge that, in the circumstances, I felt it incumbent upon me to at least indicate that his position was open to question. His statements left no room for doubt as to their meaning. 1. "As for boiled milk alone causing much scurvy or rickets, time and space preclude lengthy discussion, but I can confidently join issue with and strongly deny that boiling of milk is a considerable factor, if indeed a factor, in the causation of scurvy." 2. "I consider the question of boiled milk and scurvy the classical example in medical circles of 'a little knowledge being a dangerous thing.'" 3. "..... During my 15 years' close observation of the feeding of infants in private and hospital practice I had not seen one single case due to boiled milk; *verb. sap.*" 4. "So long as we have two schools of thought—the boiled-milk-scurvy-rickets school and the other-side school—so long shall we have a heavy infantile death-rate from diarrhœa." My view in regard to the discussion of scientific matters precludes me from dealing with the many personalities which Dr. Forbes Ross has thought fit to introduce. His reply to me is as irrelevant to his own statements as it is to my letter. In answer to my contention that the powder he recommended is not a food for infants, he is content with the retort that he is glad I did not, by contrast, assert it to be "raiment." I am quite unequal to such methods of discussion. The matter is a serious one and should not be obscured by irresponsible levity.

Dr. J. M. Fortescue-Brickdale and Dr. Edmund Cautley have raised the interesting question of scorbutus in relation to pasteurisation. As I have pointed out elsewhere the term "pasteurisation" is not at present sufficiently definite as it does not, generally, connote any precise temperature. Emmett Holt's three cases all occurred in instances where the milk mixtures had been heated to 167° F. And I have reason to believe that Holt now prescribes a considerably lower temperature. Dr. G. Rowland Freeman of New York called upon me a few weeks ago and in the course of conversation he gave me an interesting confirmation of this point. He told me that when he first designed his well-known "pasteuriser" he arranged it to work at 167°. But he found this temperature was too high and now recommends 155°. Saul's ortho-methylaminophenol sulphate test is especially interesting in regard to the precise temperature at which the changes take place. Personally, when ordering pasteurisation, I seldom exceed 150° for 15 minutes, as I find that this meets all the requirements, and I am not aware that any observer has recorded a case of scorbutus developing on milk mixtures heated at this temperature. But I quite agree with Dr. Fortescue-Brickdale that unheated milk is the best in sufficiently favourable circumstances.

I am, Sirs, yours faithfully,

Harley-street, W., Oct. 24th, 1904. RALPH VINCENT.

[1] Brit. Med. Jour., October, 1904, p. 1116.

THE TREATMENT OF BLOOD POISONING BY PERCHLORIDE OF IRON.

To the Editors of THE LANCET.

SIRS,—My friend Dr. Amand Routh and others who have used perchloride of iron in septicæmia may be interested in the following passage from the first edition of my "Manual of Diseases of the Nervous System," vol. ii., p. 326 (1888). As it occurs in the chapter on Meningitis it is not likely to have been noticed:—

"In cases of septicæmic meningitis, what slender chance of benefit there may be is most likely to be obtained by the free administration of perchloride of iron, a drug which, more than any other, has seemed to me to have the power of saving life in septicæmia. This treatment was adopted in each of the cases of apparently septicæmic meningitis which recovered. In one case there was severe headache and delirium, rigidity of the limbs on one side, and a temperature of 105·5°."

I first found its value about ten years before and had repeatedly urged its use on the students at University College Hospital. I do not know of any earlier reference to it, but in erysipelas the late Sir Russell Reynolds advocated its administration in his article on this disease ("System of Medicine," vol. i., 1870). Previous use of it had been in surgical erysipelas as an external application, although Hilton gave it also by the mouth and asks whether it "may not have done good as an antiseptic to the contents of the stomach."[1]

I am, Sirs, yours faithfully,

Queen Anne-street, W., Oct. 24th, 1904. W. R. GOWERS.

To the Editors of THE LANCET.

SIRS,—I have been much interested in Sir Isambard Owen's case of streptococcic infection reported in THE LANCET of Oct. 15th, p. 1079, where he recommends the solution of the perchloride of iron to be given in half-drachm doses every six hours and Dr. Amand Routh's corroboration of the treatment in THE LANCET of Oct. 22nd, p. 1178, but I do not think either recommendation goes far enough. For the last 18 years I have been in the habit of treating erysipelas, whether arising from a wound or otherwise, with iron given in the following doses. For the first 24 hours I give a mixture containing four drachms of solution of perchloride of iron

[1] THE LANCET, Feb. 24th, 1866, p. 195.

to be divided into 12 doses, a dose to be given every two hours. For the second 24 hours I give six drachms and for the third and every succeeding 24 hours until convalescence is fairly well established I give one ounce in each mixture. On one or two occasions I have continued the latter doses for eight days and I do not remember an unsuccessful case where this treatment was carried out. When the perchloride of iron is given in these doses it does not require the aid of sulphate of magnesia, for it does not constipate and I have never known it to induce vomiting.

I am, Sirs, yours faithfully,

Beckington, Bath, Oct. 24th, 1904. W. G. EVANS.

PLAYING GROUNDS.

To the Editors of THE LANCET.

SIRS,—May I be permitted to make a few comments on the leading article under the above heading which appeared in THE LANCET of Oct. 15th? My suggestion as to setting apart a portion of the Royal parks for properly organised games was, I admit, in the nature of a counsel of despair. No one can value more than I do the present attractions and amenities of our parks and I am not prepared to deny that, if my suggestion were adopted, they would lose much of their charm for many who now frequent them. I fully admit the loss in one direction but venture to think that the gain in another should be held more than to compensate for this. It is surely more important to cater for the actual *necessities* of one class rather than the *luxuries*—for they are in substance nothing more—of another. Our working-class children living in the central districts of London *must* have opportunities for physical recreation if they are to grow up into a national asset of any value. They *must* have them, moreover, within easy reach of their homes and at as low a cost as possible. The "carriage folk" and those who use the parks for rest or pedestrian exercise cannot pretend for a moment that the "wants" which the parks supply for them are so imperious or so much a matter of national concern as the vital wants of the children already instanced. Moreover, the degree of interference with the present amenities of the parks can easily be overrated. Those who are over-anxious on this score should pay a visit to Battersea or Victoria Park, both of which are under the control of the London County Council. There they will see that while a generous provision has been made for physical recreation in a variety of forms the net result has been to preserve both open spaces as things of beauty. Stretches of both parks can vie with anything in the Royal parks for sheer attractiveness and picturesque effect. Therefore, while admitting that the advent of stumps and goal-posts into Hyde Park might stir the soul of Mayfair to its bottommost depths I cannot help thinking that, if the experiment were given a fair trial for a short time, it would soon be found that Mayfair was crying out before it was really much hurt. As regards your suggestion that better use should be made of the playgrounds attached to our large elementary schools, I do not think that it is generally known that these playgrounds are now open to the children out of school hours, at least so I am assured by a manager. The difficulty about conducting physical drill classes at these schools lies in the fact that in so many cases the children are not sufficiently well fed to be in a fit state for any sustained physical effort. Moreover, it must not be forgotten that these playgrounds are not open to boys and girls *who have left school*—at the early age of 14 years or under, be it remembered. It is from this class that "hooligans" are apt to be bred and for which the numerous boys' and girls' clubs have been called into being. These are the little Londoners who find it so hard to *get out of London* and look upon the face of nature and who are growing up stunted in mind, body, and soul.

I am, Sirs, yours faithfully,

Holland-road, W., Oct. 18th, 1904. ERNEST LESSER.

THE DISCHARGE OF SEWER GASES INTO THE STREETS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Oct. 15th you call attention to a crying evil and suggest that a remedy might be effected by means of improved ventilation. I think your readers will be interested to hear that such a remedy has been devised by the well-known sanitary engineer Mr. Isaac Shone, whose new system is now at work in Leicester and is in course of installation at St. Thomas's Hospital and several other places. Fans which may be driven by steam, gas, water, or electric power exhaust the air out of the sewers and discharge it through high shafts into the atmosphere. At the same time fresh air is drawn down soil pipes and drains into the sewers. The results of this simple operation, which would appear to completely solve the problem of sewer ventilation, are threefold:—1. The escape of sewer gas into the streets or houses is impossible. 2. The sewer gas can be rendered innocuous before being discharged into the atmosphere. 3. The air in the sewers can be kept in such a condition that workmen can enter them without danger.

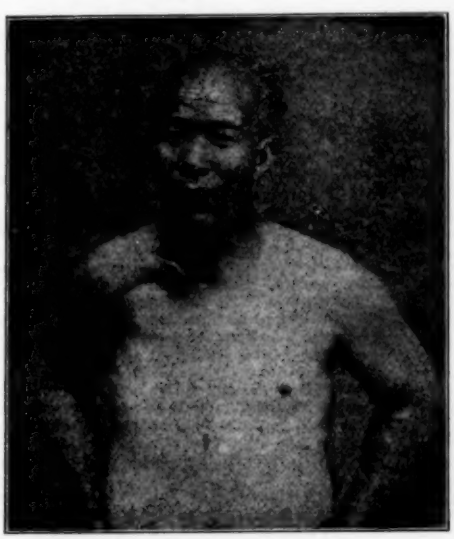
The evil you discuss is by no means limited to London. Only recently while passing along the streets of a favourite health resort at every few yards I was met by the most offensive stenches. The noxious effects of breathing sewer gas need not be insisted upon in such a journal as THE LANCET. I trust that your powerful influence may tend to abolish what is at once a nuisance and a danger to health.—I am, Sirs, yours faithfully,

Oct. 22nd, 1904. THOS. GLOVER LYON, M.A., M.D. Cantab.

CONGENITAL ABSENCE OF THE BREAST.

To the Editors of THE LANCET.

SIRS,—I inclose a photograph of a case of congenital absence of the right breast and pectoralis major in a male. The patient's father presents the same defect, but his own children and his father's elder brother have both breasts normally developed. In regard to the development of the



breasts in his other relatives the patient can give no information. Reference to Gould and Pyle's "Anomalies and Curiosities of Medicine" leads me to believe that this defect is seldom met with or, at any rate, seldom described; this is my reason for reporting the case.

I am, Sirs, yours faithfully,

G. DUNCAN WHYTE, M.B. Edin.

Swatow, China, Sept. 23rd, 1904.

THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

To the Editors of THE LANCET.

SIRS,—The North-Eastern Hospital for Children, Hackney-road, Bethnal Green, in the midst of some of the poorest districts of London, is in danger of being compelled through lack of sufficient support to close half of its wards at the end of December. A new building, increasing the number

of beds from 57 to 114, was completed (and brought into use) in 1903 at a cost of £37,000, all but £9000 of which has been obtained. This scheme has received the full approval and generous financial support of King Edward's Hospital Fund. The pressure on the enlarged hospital has continued to be very severe and the beds are always full. The ordinary annual expenditure, formerly £6500, has been increased to £11,000. The receipts, however, have unfortunately remained almost stationary and a debt of £4000 has already been incurred through the increased expenditure on maintenance. In view of the debt of £9000 on the new building the committee feels that the time has come when the increase of liabilities should cease and it has decided, with great reluctance, to withdraw 57 of the beds from use at the end of December unless adequate assistance can be obtained in the meantime.

The disorganisation and general inconvenience resulting from such a step can only be fully appreciated by those concerned in the management of similar institutions, but all can realise the suffering that would be caused in this crowded neighbourhood by the withdrawal of any hospital accommodation, more especially at this time of unusual distress. Never before in the history of the hospital have wards been closed for want of funds and we earnestly hope that the public will remove the necessity for so calamitous a step by subscribing liberally to the special fund opened for the purpose. Cheques, &c., crossed "Barclay and Co., Ltd.," should be sent to the secretary at the hospital.

We are, Sirs, your most obedient servants,

AMHERST OF HACKNEY, President.
Oct. 25th, 1904. WILLIAM CECIL, Chairman.

THE PREVALENCE OF APPENDICITIS.

To the Editors of THE LANCET.

SIRS,—Nothing is more remarkable in the medical world than the extraordinary increase of cases of appendicitis. In the middle of last century this complaint was almost entirely unknown. The only case that I can remember hearing of when I commenced practice in Edinburgh 60 years ago was that of a daughter of Mr. Syme, at that time and for a long period our first surgeon. She had swallowed a cherry stone which was found after death in the appendix vermiformis where it had set up inflammation. During 40 years, in which I had a very large practice in Edinburgh amongst all classes, I do not remember a single case and I have heard of none for the last 25 years among my old patients. I do not know what may have been the experience of the other medical men in Edinburgh during the same periods. For myself I have always strongly objected to the very full feeding, especially of the large use of butcher's meat, which was introduced some 60 years ago, and generally adopted by both the profession and the public. This mode of living has been followed now by three generations and, as I have shown elsewhere, to the great deterioration of the health and strength both of rich and poor. The great risk of appendicitis is the formation of pus, caused no doubt by the irritation of some small hard bodies which have dropped into the appendix vermiformis in their passage through the bowels. I have also shown elsewhere the connexion of pus formation with the consumption of large quantities of food, especially of butcher's meat. Here, I believe, we have a true cause of the disease and also a sufficient one and it seems unnecessary to go further.

I am, Sirs, yours faithfully,

Currie, Midlothian, Oct. 24th, 1904. GEORGE S. KEITH.

ERICHSEN'S SURGERY.

To the Editors of THE LANCET.

SIRS,—In an address to the students of the Leeds Medical School delivered by Mr. Edmund Owen on Oct. 18th and published in THE LANCET of Oct. 22nd (p. 1123) occurs the following:—

> The labours of Lister have happily diminished the field of work of the operator in some directions, though have enormously increased it in others. Indeed, Lister has entirely altered the map of the surgical world. As the result of his work the old surgical gazetteers became useless. They could not be adapted for modern requirements, even by the most skilful editors. Nowhere is this seen more clearly than in the case of that great text-book—that standard work for students in my early years—Erichsen's "Surgery." The copyright of that book must have been a considerable source of income both to its illustrious author and to its publisher. It was read by nearly every student and referred to by nearly every man in practice. It was taken into the law courts, and it was quoted by every surgical writer. Its position as *the* authority in all surgical questions seemed to be for ever established. Then came the revolutionising work of Lister, and the well-known text-book, like the Great Auk, ceased to be.

My object in writing is to point out that, far from Lister's revolutionising work appearing to deal a death-blow to Erichsen's "Surgery," two of the most successful editions appeared after the period at which Lister's teaching became generally known and began to produce its effects.

In 1884 Mr. Marcus Beck first became associated with the author in revising the text-book and in the preface to the eighth edition then published it is specially remarked that "in no corresponding period in the history of surgery has so great an advance been made in all its branches as in that which has passed since the last edition of this work was published." That edition, which was exhausted in less than four years, was universally read by students and no one could speak with more authority on the new methods of surgery than Marcus Beck.

Of the ninth edition appearing in 1888 the same may be said, and thus I hardly think the evidence shows that "the well-known text-book, like the Great Auk, ceased to be" by reason of the work of Lister. On the contrary, the new life which Beck so freely infused into the book was essentially that derived from Lister's teaching, and there can, I think, be little doubt that even now, as in Mr. Owen's early days, "Erichsen" would still be the standard work for students if Marcus Beck were still alive.

I am, Sirs, yours faithfully,

Oct. 25th, 1904. RAYMOND JOHNSON.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Victoria University Laboratories.

ON Oct. 14th the new Public Health Laboratories in York-place, Oxford-road, were opened for the regular course of instruction in public health. It is more specialised than is required by the medical student who is not ambitious of public health distinctions. The courses are arranged to assist students to take a diploma in public health leading up to the B.Sc. degree in public health. Students will also have opportunity for qualifying for a diploma in veterinary state medicine. There are also research and post-graduate courses in pathology and bacteriology in which most valuable work is carried on. To those who can look back even for a very moderate number of years the development of pathological study in Manchester must seem remarkable and it has led to some division of labour being required. Professor S. Delépine will deal with the more specialised departments of comparative pathology and bacteriology, while Professor J. Lorrain Smith will have charge of the pathological instruction as more especially applicable to medicine and to the requirements of those who seek medical degrees. Though the work of teaching can be carried on the buildings are not yet finished and their full equipment is not expected before January next. The classes now at work are for medical officers of health; for chemists studying the application of bacteriology to various industrial processes, as in fermentations; and for medical men or advanced students making a special study of bacteriology. The work in connexion with municipal public health has grown rapidly within the last few years and in these laboratories the inquiries and samples of about "100 sanitary authorities will be studied, examined, and reported on." In January next courses of advanced lectures on public health will be begun. The building when complete will not be unpicturesque it is said. It will be two storeys in height, will have a frontage of over 50 yards, and its appearance will be somewhat striking from the amount of window space.

Eyesight of School Children.

The report of the education committee of Manchester on the work of the past year contains an immense amount of information as to all branches of school life. But that which is specially interesting to our profession is the report of the medical officer—Dr. A. Brown Ritchie—who has tested the eyesight of children attending the schools in Standard II. and above. The total number tested was 27,329. Of these 1960 cases were so grave that circulars were sent to the parents calling attention to the defects and

requesting that the child should be taken to a private practitioner or to a hospital. Of defective hearing 289 cases came before the medical officer and the parents of 118 were advised. By arrangement with the Manchester Eye Hospital spectacles are supplied to necessitous children either free or at a reduced charge, which "is paid out of the school banks reserve fund." But before this help is granted careful inquiries are made as to the circumstances of the parents. In conjunction with Dr. J. Niven, medical officer of health of Manchester, Dr. Ritchie has worked zealously towards the prevention or lessening of infectious or contagious diseases in schools.

Blind, Deaf, and Feeble-minded Children.

The education committee has continued to send blind and deaf children to homes. Three special day-schools are maintained for the feeble-minded, while some of them are sent to the residential schools at Sandlebridge. A residential school for epileptic children is being considered and it has been decided to have a residential school for 25 crippled children at Swinton House.

Juvenile Smoking.

Even those of us who yield themselves to the pleasant vice of smoking may sympathise with the efforts of the earnest men forming the executive committee of the British Anti-Tobacco and Anti-Narcotic League to check juvenile smoking. On Oct. 18th Mr. R. Rigg, M.P., at a meeting in Manchester explained to the above committee the prospects of a Bill promoted by him. It provides that no person under the age of 16 years shall smoke or use tobacco in any form under a penalty not exceeding 10*s.* for each offence. It also provides penalties for those who supply tobacco to children. He said that in America there were few States without restricting legislation and "that Norway, South Australia, and many of our colonies were moving in the right direction." Sir Charles Skelton proposed that a deputation should wait on the Prime Minister to ask him to give facilities for the introduction of a measure to check the growing habit of tobacco smoking by children. This was seconded by Mr. J. L. Paton, head master of the Manchester Grammar School, who said "it was quite clear that the cigarette was the enemy of every schoolmaster who was in earnest in his business. There was need for a stricter inforcement of parental authority in the matter." Unfortunately, parental authority, coincidently with the general want of respect among the young for all authority, is somewhat out of vogue. Mr. T. Wyles, principal of Buxton College, supported the motion, which was passed. Medical men will probably be more nearly agreed on the question of juvenile smoking than on most others. One is struck almost everywhere with the sight of tall, well-grown girls and of undersized young men. Whether this is due to the habit of juvenile smoking among the latter or to other causes in addition is a question one need not attempt to answer here. There is one way of testing the matter which in time may produce satisfactory or unsatisfactory evidence that the girls seem determined to give—namely, by taking more and more to cigarette smoking themselves.

Royal Albert Asylum.

The annual meeting of the Royal Albert Asylum, Lancaster, was held on Oct. 18th at the College of Medicine, Newcastle-on-Tyne. The Duke of Northumberland, one of the trustees and presidents, was in the chair. He drew attention to the very objectionable herding together in the large public asylums, at great cost, of the lunatic and the feeble-minded. The latter were difficult to deal with and were often treated at home "with a degree of brusqueness which was extremely bad for the patient." At the Royal Albert Asylum efforts were made to fit them for something useful in life and these efforts had been followed with great success, many of the patients having been enabled to earn their own livelihood. He appealed to Northumberland for more support than the county had hitherto given to the asylum. Sir John T. Hibbert, K.C.B., said, in order to allay a false impression that was current in some quarters, "that they had nothing to do with lunatics," between whom and idiots or the feeble-minded there was a vast difference. The asylum has been in existence 40 years and the report stated that on June 30th, 1904, there were 626 patients—406 boys and 220 girls. Lancashire sent 273 of these, Yorkshire 182, Cheshire 57, Durham 54, Cumberland 31, Westmorland 13, Northumberland 12, and other counties four. The opening of the Herbert Storey Industrial Schools and Workshops was referred to as the most important event in the year's proceedings. The contracts for the building, excluding electric lighting and other items, were £6845, towards which, it may be remembered, Mr. Herbert M. Storey, high sheriff of Lancashire, gave 5000 guineas.

Work among the Cripples.

Mention was made some little time since of the plans for the alleviation of the sufferings of those poor of Manchester who are cripples. For some years past a branch of the Ancoats University Settlement has been engaged in this benevolent work. At a gathering of the friends of the institution at the Ancoats Museum recently it was stated that there are 244 cripples living within a radius of three-quarters of a mile from the museum. Of these 52 are suffering from hip disease, 58 from paralysis, 44 from rickets, and 30 from diseases of the spine. "Each case is regularly visited and in addition to food, clothing, and suitable employment, medical or surgical aid is provided." There is also an open-air nursery for the little ones in every street. Mr. W. P. Montgomery, who was in the chair, testified to the excellence of the work and to the means taken to prevent overlapping. He said that "as the outcome of their modest attempt" it was probable that in a year or two there would be special schools for cripples.

West Riding Chambers of Commerce and the Rivers Board Bill.

On Oct. 12th there was a conference at Huddersfield of representatives of West Riding Chambers of Commerce to consider the provisions of a Bill dealing with trade effluents which the rivers board intends to promote in the next session of Parliament. These gentlemen seem to be terribly afraid that their rivers will be made too pure. They object to the Bill as seeking "to impose upon manufacturers and others in the West Riding still further exceptional legislation with respect to the purification and disposal of their trade effluents," and say "that it is objectionable in principle as well as in many of its provisions and ought not to be proceeded with." This opposition seems short-sighted, but each of these manufacturers is loth to lose the privilege of fouling the water and then passing it on to his neighbour lower down.

Oct. 25th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Public Health History of Swansea.

THE annual meeting of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health was held at the Swansea Hospital on Oct. 20th, when Mr. Ebenezer Davies, the medical officer of health of Swansea, delivered his presidential address in which he compared the conditions that obtained in Swansea prior to the date of his appointment in 1865 with those now existing both as regards the state of public health and the machinery for safeguarding the vital interests of the population. In 1853 Mr. W. H. Michael was appointed medical officer of health at a salary of £150, but he exposed so freely the sanitary defects of the town in respect to scavenging, drainage, and water-supply that before the end of the year it was decided not to renew his appointment. The carrying out of his recommendations involved expenditure and the making of a board of health rate roused so much opposition that proceedings had to be taken to enforce payment from ratepayers who challenged the legality of the rate. No further appointment of medical officer of health was made until the year 1865, when an outbreak of yellow fever in which there were 22 definite cases awoke the municipality to the necessity of enforcing sanitary reforms, and Mr. Davies was appointed at a salary of £100 per annum. This outbreak was investigated by Dr. (afterwards Sir) George Buchanan and the results of his inquiries were incorporated in the eighth report of the medical officer of the Privy Council published in 1865. The results of sanitary progress in Swansea were well shown in the figures comparing the death-rates in the ten years 1866–75 with those in the eight years 1896–1903. The general death-rate was reduced in these two periods from 23·6 per 1000 to 18·3 per 1000, the zymotic death-rate from 4·49 per 1000 to 2·14 per 1000, and the death-rate among persons above five years of

age from phthisis was reduced from 2·18 per 1000 to 1·51 per 1000.

Remuneration of a Medical Officer of Health.

Since Oct. 1st a large portion of the rural district of Barton Regis has been joined to the city of Bristol, but there are three parishes having a total population of 4600 now within the area of the Chipping Sodbury rural district of which Dr. Francis T. Bond has been medical officer of health for 31 years. The addition of a population of nearly 5000 persons in a rural district involves not only extra work but additional out-of-pocket expenses in proceeding to and from the added area and Dr. Bond very properly expected to receive a suitable addition to his salary. The district council, however, thought otherwise and proposed that the medical officer of health should undertake the additional work without any further remuneration. Upon Dr. Bond refusing to accept this view and suggesting that he should be paid an additional salary proportionate to that which he received for the old area the council appointed temporarily as medical officer of health for the three parishes concerned Dr. F. W. Crossman, a son of the late Dr. Edward Crossman who was medical officer of health of the Barton Regis district at the time of his death in September last. The dispute will be settled by the Local Government Board which may be relied upon to see that an equitable conclusion is arrived at.

Legacy for the Universities of Wales and Liverpool.

A munificent bequest has been made to the University Colleges of Bangor, Cardiff, and Liverpool (the last-mentioned of which is now the University of Liverpool) by the late Isaac Roberts, F.R.S., Sc.D., F.R.A.S., F.G.S., of Crowborough, Sussex, who was born in 1829 near Denbigh and who lived for some years in Liverpool. Dr. Roberts's estate is said to be valued at £45,000 and subject to certain annuities each of the three colleges will receive one-third of this sum.

Small-pox at Caerphilly.

Several more cases of small-pox have resulted from the importation in September of the disease into Senghenydd in the Caerphilly urban district by a navvy. Up to the end of last week 12 patients had been infected in 11 houses. They have all been removed to the small-pox hospital and at present no deaths have occurred.

The Housing Question at Aberdare.

The Aberdare urban district council was one of the few local authorities which refused to adopt the Infectious Diseases (Notification) Act, 1889, until compelled to do so by the extension Act of 1899, and the same disregard for the welfare of the inhabitants of the town appears to distinguish the council's proceedings at the present time. At the last meeting of the council held on Oct. 17th one member stated that among houses which he had recently examined 304 had no backdoors and a large number had no back windows, while in 295 there was insufficient headroom. If this statement is trustworthy a very heavy responsibility rests upon the district council if it refuses to take steps to effect an improvement in the conditions which prevail in the town.

The Question of a County Medical Officer of Health for Somerset.

At the meeting of the Somerset county council held on Oct. 18th it was decided to send a resolution to the Board of Agriculture expressive of the opinion that in the interests of public health and for the legitimate protection of the dairying industry the use of antiseptics in milk and its products should be entirely prohibited. The general purposes committee of the county council had reported that it had discussed the question but was unable without expert advice as to the effect of antiseptics on the public health to make any recommendation to the council. This confession of impotence on the part of the committee ought no longer to be allowed to remain unremedied. Upon several occasions[1] the question of appointing a medical officer of health for the county has been before the council but the proposal has been negatived on the score of expense, principally by the representatives of the agricultural interests. Other dairying counties have been more far-seeing, noticeably the county of Cheshire, to which a medical officer of health was appointed very shortly after the passing of the Local Government Act of 1888. The true interests of the Cheshire farmers have been advanced by the investigations and reports of the county officials and such would no doubt be the case in Somerset. The population of the administrative county at the last census was 385,060 and there are only 14 counties in England and Wales with a larger population. In 13 of these counties there is a medical officer of health and there is also one in 13 counties each having a population less than that in Somerset.

[1] THE LANCET, Oct. 25th, 1902, p. 1158.

New Hospital at Crewkerne.

The new hospital which has been erected at Crewkerne (Somerset) was formally opened by Sir Frederick Treves on Oct. 18th. The building provides accommodation for 15 patients with two cots for children and an excellent operation theatre. The cost of the undertaking has been £5000.

Oct. 24th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Parliamentary Representation of the Universities of Glasgow and Aberdeen.

SOME difficulty has arisen in connexion with the nomination of a suitable candidate for filling the vacancy caused by the prospective retirement of the Right Hon. James Alex. Campbell, LL.D., from the position of parliamentary representative of the Universities of Glasgow and Aberdeen. The political interests of the Conservative and Unionist party are being looked after by no less than three bodies: the University of Glasgow Conservative and Liberal Unionist Association, (2) the University of Aberdeen Unionist Association, and (3) the Universities of Glasgow and Aberdeen Conservative and Liberal Unionist Association. The first two bodies acting together have agreed to nominate Sir Henry Craik, K.C.B., LL.D., at present secretary of the Scotch Education Department, and this gentleman has expressed his willingness to place his services at the disposal of the constituency. The third body, taking into consideration the facts that the medical profession is quite inadequately represented in Parliament and that questions of a public health character are frequently before Parliament, resolved to nominate a member of the profession and in view of the fact that the representative for the past 24 years had been connected with the University of Glasgow resolved that on this occasion he should be directly associated with the University of Aberdeen. Finally, it decided to recommend Professor William Robert Smith, M.D. Aberd., D.Sc. Edin., F.R.S. Edin., D.P.H. Cantab., barrister-at-law, and J.P. for the county of London. In reply to a circular letter a very large number of graduates of both universities have indicated their willingness to support Dr. Smith's candidature. Dr. Smith, who had refrained from giving his assent until the general wishes of the graduates had become known, has now intimated his willingness to accept the invitation.

University and Medical Schools of Glasgow.

The winter session began on Oct. 13th in the University, Anderson's College Medical School and St. Mungo's College. It had been intimated that St. Mungo's College would be opened by Mr. W. S. Bruce, F.R.G.S., leader of the Scottish National Antarctic Expedition, who had promised an address the subject of which was "Antarctic Exploration: a Retrospect." The address, however, had to be postponed on account of the illness of the lecturer's wife. It is expected that it will be delivered at an early date.

Oct. 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The Sewerage of Belfast.

LETTERS have recently appeared in the local Belfast papers drawing attention to a most unsatisfactory state of affairs in a district known as the "Bog Meadows," where there is a series of open sewers, some of them being close to the Malone Protestant Reformatory. Such a state of matters is most discreditable, but it is understood that a main sewer has now been constructed and that the various parts of the district are being gradually connected with it, so that the present unsatisfactory condition of things should not exist much longer.

The Water-supply of Bangor.

A larger supply of water is required for Bangor, a health resort on Belfast Lough much frequented by visitors. The existing supply is taken from a catchment area of 300 acres and cannot be enlarged. It gives 32½ gallons per head per day of the estimated population, while 35 gallons are generally regarded as the average amount which a properly arranged town should supply for its inhabitants. The urban council has decided to seek for Parliamentary powers to obtain water from another area of about 800 acres, consisting of 60 per cent. pasture land and with a population in the entire district of only 130 persons on a number of farmsteads. A storage reservoir capable of containing 42,000,000 gallons of water could be made here, as well as filter-beds, and the residents of Bangor could obtain 250,000,000 gallons per day, which should be sufficient for their wants for the next 20 years. The engineers consulted, the public analyst of Belfast, Mr. J. F. Mitchell (medical officer of health of Bangor), and Dr. H. O'Neill of Belfast all approve of the scheme.

Queen's College, Belfast.

Candidates applying for the chair of pathology in Queen's College, Belfast, are requested to forward their testimonials to the Under Secretary, Dublin Castle, on or before Nov. 9th, 1904, and the person appointed is to begin work on Jan. 5th, 1905, after the Christmas vacation. Medical lectures began on Oct. 18th.

The Belfast Medical School.

The formal opening of the hospital work of the Belfast Medical School took place on Oct. 24th, when, in the presence of his colleagues and before a large audience of students, Mr. A. Fullerton, assistant surgeon to the hospital, delivered in the large extern hall of the hospital an introductory address which was greatly appreciated by all present. On the motion of Professor T. Sinclair, seconded by Professor J. W. Byers, and supported by Dr. O'Neill, a very cordial vote of thanks was unanimously passed to Mr. Fullerton.

Oct. 25th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

M. Doyen's Serum Treatment of Cancer.

As briefly outlined in THE LANCET of last week M. Doyen's serum treatment of cancer has suddenly attracted much public attention and has been the theme of many columns in the newspapers. M. Doyen's opponents, who are numerous, joyfully unbosomed themselves to a host of reporters seeking interviews, and M. Pozzi, M. Poirier, Dr. Sebileau, and many others went so far as to condemn what he had done. The discussion has now taken a different aspect, for there is now no longer much question as to Mr. Crocker's claim for the return of the 100,000 francs (£4000) paid to M. Doyen as fees on the understanding that the serum treatment would cure the cancer from which Mrs. Crocker suffered. Everyone concerned admits that if the same sum had been offered to himself he would have accepted it, and, moreover, acknowledges that a medical man who has done all that is possible is not bound to return his fees in the event of non-success. The campaign against M. Doyen, however, turns upon the question of the use of a serum which might be looked upon as a secret remedy and which has been imprudently represented by him as a certain cure for cancer. M. Doyen has willingly accepted the challenge based on these imputations and has replied that there is not the least secrecy about the composition of his serum, for the manner of preparing it was made known by him at the Congress of Medicine held in Madrid in 1903, at the Academy of Sciences, and at the Academy of Medicine in February, 1904. He added that it would be unjust to show more severity to him than to Pasteur, to Richet, to Chantemesse, and to all other discoverers of serums whose results had been accepted without the distrust manifested in his case. To give an instance, the composition of the anti-typhoid serum of M. Chantemesse was still undisclosed and that surgeon intended not to make it known until the thousandth case had been reached. He further added that he had never promised a positive cure of all cancers—a promise which would be absurd and dishonest, but that he was making experiments some of which had given him such a proportion of very favourable results that he did not feel himself justified in withholding a chance from the unfortunate persons to whom the accepted treatment offered no hope. With these replies to his opponents M. Doyen unfortunately combined some very sharp attacks on them and introduced personalities, complaining of the unprofessional (*non-confraternel*) behaviour both of M. Pozzi, who had accused him of illegally trafficking in a secret remedy, and of M. Debove, dean of the Faculty of Medicine, who had signed a certificate to the effect that Mrs. Crocker had become worse since Doyen's serum had been used. Previously to the French Surgical Congress, which opened on Oct. 17th, he proclaimed aloud that in these circumstances it would be impossible for M. Pozzi to preside at the congress and for M. Debove to retain his position as dean of the Faculty of Medicine, for on the re-opening of the Chambers deputies would question the Ministry on the subject. After this public defiance the opening of the Surgical Congress was awaited with eager curiosity. It took place on Monday, Oct. 17th, at 2 P.M., in the great amphitheatre of the Faculty of Medicine, and there was a large attendance in expectation of a "scene." But by a clever stroke of policy the council (*bureau*) had invited the President of the Republic to honour the congress with a visit, and consequently on this occasion, as on all others, a strong force of police, with the prefect of police in command, occupied the place of meeting and rendered any disturbance impossible. The discussion on the treatment of cancer, with M. Doyen as the principal speaker, was held on Tuesday morning and the attendance, consisting of medical men, students, reporters, photographers, and others, was even more numerous than before. When M. Doyen appeared all his friends received him with prolonged cheering which was, however, accompanied with some hissing. He commenced his speech by requesting his hearers to show respect to the scientific character of the place where they were assembled, as he himself intended to do—a remark which produced a good impression. He then read his paper very quietly, mentioning all the previous circumstances in which he had published his results already obtained, explaining over again the mode of preparing his serum, and giving the statistics, which for a period of four years unfortunately included a very large number of deaths but also included 42 entirely favourable cases. In bringing his paper to a close he said that the method deserved a trial and invited all the surgeons to come and to see the results in his clinique. M. Doyen, in speaking, exceeded the regulation period of ten minutes, whereupon M. Pozzi, who was in the chair, showed conspicuous courtesy by granting him an extension of five minutes "on the ground of the importance of his communication." The discussion then commenced immediately. M. Reynès of Marseilles and M. Folet of Lille asked for the appointment of a commission to verify the results which had been claimed by M. Doyen and which seemed to them to be problematical. M. Poirier delivered a speech in which he declared that the clinical and anatomical portion of M. Doyen's communication contained nothing which was not already known and that the micrococcus neoformans had not up to the present time been seen by anybody except M. Doyen himself. As for the results which had been described, he would be quite ready to accept them and to proclaim M. Doyen a benefactor of mankind if M. Doyen would agree to treat patients selected by learned societies and to show them after they had been under his care for a year. M. Doyen replied by offering to show M. Poirier preparations of the micrococcus neoformans in his laboratory but M. Poirier declined, saying that he was not an authority on the subject (*incompétent*) and that it would be better to appeal to the judgment of competent bacteriologists such as M. Roux or M. Metchnikoff. M. Doyen then invited M. Poirier to examine the progress of cases in his clinique but the latter replied that he had no time for this as he was occupied in the morning with his hospital work. Finally, when the proposal to appoint a commission of control was renewed M. Doyen objected to the word "control" because it would for a year bring his remedy under public suspicion which would paralyse his researches, but he agreed to surgeons selecting cancerous patients whom he would show after they had undergone treatment by his method. At the conclusion of his remarks M. Doyen was loudly applauded by the meeting and was escorted by the students to his carriage in the court of the Faculty of Medicine. The proceedings terminated without the disturbance which was expected—

a result largely due to the pacific attitude of M. Pozzi and the tact of M. Doyen, and there are grounds for hoping that the controversy is now at an end. On Oct. 24th M. Doyen received a visit from a commission of eminent medical men who met at his clinic at 10 A.M. in order to observe the experiments of verification. Among the members of this commission were M. Metchnikoff, assistant director of the Pasteur Institute and member of the Academy of Medicine; M. Netter, hospital physician, *agrégé* of the Faculty, member of the Academy of Medicine and of the Comité Consultatif d'Hygiène; M. Variot, hospital physician; M. Levaditi, M. Blondel, M. Gallois, M. Leredde, and M. Berthod. In their presence M. Doyen removed two cancerous tumours of the breast, at the same time taking from the tumours and from the glands several fragments of cancerous tissue with all imaginable precautions and using a fresh bistoury for each specimen. Each of the fragments was placed as propagation material in a tube of culture bouillon made from cow's udder. M. Metchnikoff caused a tube of plain (*non ensemencé*) bouillon to be added to these tubes as a control experiment and the tubes were divided into two sets, one of which was conveyed by M. Metchnikoff to the Pasteur Institute, to be observed by himself, whilst the other one was sealed in the presence of the commission and left in M. Doyen's incubator. At the same time two females suffering from tumour of the breast were shown. Both cases are unquestionably quite inoperable and are being at present treated by the serum. As they said themselves, their condition is now much better than it was. One of the cases is likely to become operable (to use M. Doyen's expression) in a few days—that is to say, the glands are becoming smaller and the œdema is disappearing, while the tumour is becoming moveable and isolated and will be capable of excision, with prospects of complete extirpation which did not exist before. The other patient, the place of whose breast is occupied by a granulating mass surrounded by indurations *en cuirasse* and whose case was declared to be inoperable by Professor Roux of Lausanne and M. Jaboulay of Lyons, is now having her sixth injection. Both the patient herself and all M. Doyen's assistants declare that her local symptoms are already distinctly improved. The committee will meet again before long in order to judge of the progress which has been made. The various operations carried out in presence of the commission have been conducted in a manner which leaves no room for suspicion. It remains to be seen whether M. Doyen's expectations will be realised, but it is at least quite evident that he is acting in good faith.

Oct. 25th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Criticisms on German Medical Journalism.

Dr. Hans Kohn, writing to the *Deutsche Medicinische Wochenschrift*, draws attention to the enormous increase of medical periodicals in Germany. There were 230 medical journals published in the German language at the end of 1903 and actually within nine months their number has increased to 240. There are, for instance, not less than seven special journals for obstetrics and gynæcology, five for diseases of the eyes, six for diseases of children, and three dealing only with the prevention of tuberculosis. A warning uttered by Professor Virchow several years ago against the undue multiplication of periodicals had therefore evidently been unheeded. The articles in German medical periodicals are in Dr. Kohn's opinion much too long and, unlike those in the corresponding English publications, they contain too much literary padding. Another objectionable feature is that the same article may eventually be inserted in several journals. When an author has read a paper, for instance, before the Berlin Medical Society it is published first in the proceedings of the society, it may then be inserted as an original article in one of the important Berlin medical weeklies, then in an enlarged form in some special "Archiv," and may finally be printed in several "Centralblätter" and in the literary columns of other medical papers. In this way the 240 medical periodicals have always plenty of matter to fill their columns. Medical journals may be divided into several classes. One of these consists of the annual reports of medical societies printed and published by themselves with no special object of making a profit. Another class is composed of medical journals distributed free of charge to all the members of the profession. They contain only notices of articles published in other periodicals and the outlay incurred in their production is met by the receipts from the advertisement columns which are their principal feature. The third class includes those journals the circulation of which is not large enough to cover the cost of production and which therefore to a great extent depend upon advertisements. Chemical manufacturers and others sometimes insert advertisements only on condition that paragraphs recommending articles made by the manufacturer in question shall be inserted in the editorial columns and in order to maintain his journal the editor must, even against his better judgment, comply with these demands. The fourth class are the important medical journals which occupy a prominent position and have many thousands of subscribers. In them the objectionable features found in periodicals of inferior rank are carefully avoided. Apart from the deterioration inseparable from excessive journalistic exuberance, Dr. Kohn says that the immense number of periodicals is a hindrance to scientific work, for even those that are restricted to a special branch are now more than one person can read and the reports supplied by the "Centralblätter" must therefore be resorted to. In the hope of mitigating these evils Dr. Kohn recommends that the university professors should advise their assistants to publish less and to present their ideas in a more compact form; they ought not to allow their names to be connected with a journal merely because they are on friendly terms with the editor, and young men ought not to found journals with a view to self-advancement.

The Medical Academy of Cologne.

It has already been announced in these columns[1] that the Government intended to create medical academies in the great provincial towns apart from the universities. The object of the academies is to deal with post-graduate study, with the training of specialists, and with the so-called practical year which, according to the new regulations for the medical examinations, every student has to fulfil previously to becoming qualified. The expenses of the academies are defrayed by the municipal authorities who place their hospitals at the disposal of the academies and make arrangements for laboratories, amphitheatres, and other accessories of study, so that the State treasury has almost nothing to pay. The first academy was opened on Oct. 10th at Cologne with unusual display. The Emperor sent Prince Frederic Henry of Prussia as his representative and Herr Studt, the Minister of Public Instruction, was present, together with the provincial and local authorities. An address was read by the Mayor of Cologne who announced that the hospitals with 1500 beds could be utilised by the academy and that 500 other beds would be ready within a short time. Professor Bardenheuer, the senior surgeon of the Cologne hospitals and dean of the new academy, said that this institution did not seek to compete with the University of Bonn but that it would confine itself to the training of specialists and to the providing of facilities for post-graduate study. In declaring the academy open the Minister of Public Instruction thanked the city of Cologne for the liberal support which it had given to the new institution. The teaching staff of the academy includes the chief physicians and surgeons of the Cologne municipal hospitals and a good many of the leading Cologne specialists. Moreover, several of the professors of the University of Bonn, which is only half an hour's distance by train from Cologne, will deliver regular lectures. Another academy will be established at Düsseldorf, where a new hospital of 1000 beds is to be constructed. It is remarkable that two towns so near each other as Cologne and Düsseldorf have both been selected as the seat of academies. In Frankfort, on the other hand, there is much opposition to the plans of the municipal and Royal authorities. The Medical Society of Frankfort has even passed a resolution to the effect that an academy was not desirable for that city, because it meant government interference with the management of the hospital and the appointment of hospital physicians. Similar apprehensions, as has been already stated in these columns,[2] are entertained by many members of the profession.

Oct. 24th.

[1] THE LANCET, Jan. 9th, 1904, p. 129.
[2] THE LANCET, loc. cit.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Poisoning by Unwholesome Fish.

AT a meeting of the Society of Medical Practitioners in Zürich held on Oct. 6th Dr. Kruker, medical officer of the town of Zürich, presented a report on a series of 14 cases of illness caused by the consumption of unwholesome fish. Members of three Jewish families who celebrated the Jewish New Year's festival on Sept. 9th by a fish dinner were afterwards seized with what appeared to be cholera nostras. The symptoms consisted in giddiness, tremor, violent vomiting, prostration, cardiac syncope, and excessive diarrhœa, one patient reporting over 100 motions in 36 hours. The severity of the symptoms varied according to the amount of the fish consumed. The fish came originally from Rotterdam and was distributed by a firm of good standing in Basle. Other toxic agencies, such as lead, copper, or arsenic, could be excluded. Two poor lads who ate the remnants of this fish dinner on Sept. 12th died after 12 hours' illness. The post-mortem examination showed very extensive follicular enteritis with necrosis, hyperæmia of many organs, fatty degeneration of the liver, and toxic degeneration of the heart. Dr. Kruker was of opinion that he had to do with microbic infection and not only with the action of ptomaines. This seemed evident as three cases of secondary infection occurred in the same families but in members who had not partaken of the contaminated food. The bacteriological investigation both of the remnants of the fish and also of the spleen and blood of the boys who succumbed gave evidence of the presence of the bacterium enteritidis (Gaertner). As a conclusive etiological proof the same micro-organism was discovered in the blood of the other 12 patients, all of whom recovered after a week or two of severe illness. Owing to this occurrence the sanitary authorities of Zürich took occasion to inspect all the fishmongers' shops in the town. Stricter regulations are now being drawn up for the protection of the public against the sale of contaminated fish. In this extreme case the fault lies with the almost incredible carelessness of the consumers, as fish which was known to be already stale was eaten two, three, and even four days after having been bought.

Zürich, Oct. 17th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Wood Alcohol.

THE large number of deaths and cases of blindness which have occurred within the past few years in the United States as a result of the ingestion of wood alcohol has attracted the attention not only of the medical profession but also of the general public to the matter. It is only during a period of some seven or eight years that fatalities following the drinking of wood alcohol have been sufficiently common to be noticeable. Before that time wood alcohol and methylated spirits were made by the old processes and were so offensive both to the organs of taste and smell that not even the most habitual topers would drink the compound. A few years ago, however, a cheap deodorised methyl alcohol, known as "Columbian spirits," "colonial spirits," and "eagle spirits," was placed on the market with the most deplorable results to health and life. Not only has this deodorised wood alcohol been used in the manufacture and in the adulteration of potable spirits, but in the manufacture and adulteration of medicinal remedies, flavouring agents, and preparations for external use. "Jamaica ginger," lemon "extract," "bay rum," "Cologne water," "witch hazel," essence of peppermint, and domestic and proprietary remedies into which alcohol enters have all within recent years been made from, or adulterated with, wood alcohol. The reasons for this pernicious custom are, in the first place, because methyl alcohol, which is untaxed, costs 50 cents per gallon and ethyl alcohol, which is taxed, $2.60 (10*s.* 10*d.*) per gallon, the comparative cheapness of the wood alcohol tempting unscrupulous manufacturers to substitute it for the dearer grain alcohol. Another reason is ignorance as to the deadly effects of wood alcohol. In order to decide the question with regard to the toxic properties of wood alcohol Dr. Frank Buller of Montreal and Dr. Casey Wood of Chicago have undertaken a thorough and exhaustive investigation of the subject under the auspices of the section of ophthalmology, American Medical Association, and have published their conclusions in a series of papers in the *Journal of the American Medical Association*, commencing Oct. 1st. A *résumé* of the work of these two investigators was also published as an editorial article in *Medicine*, July, 1904. Dr. Buller has collected and tabulated all the published cases of blindness, partial and total, that could reasonably be imputed to the absorption of wood alcohol preparations, whether by the stomach after drinking the poison or through the lungs after breathing air heavily charged with the fumes. Dr. Wood has attempted to obtain histories or descriptions of cases of wood alcohol poisoning not hitherto described in print. Owing to the labours of these investigators it has been found that wood alcohol, Columbian spirits, adulterated essences and extracts, as well as other preparations containing methyl alcohol, have during the past seven or eight years been directly responsible for about 175 cases of blindness and about 100 cases of death. Taking into consideration the fact that Dr. Buller has not attempted to collect published instances of death and that Dr. Wood has noted only cases unpublished in medical journals it is probable that a more extended search would show that 200 persons have been killed by methylated preparations within a comparatively short time and the same number blinded. The physiological and pathological action of wood alcohol has been shown by experiments to be more deadly to animal life than is grain alcohol. When taken occasionally in large quantities the difference in the action is not so marked, wood alcohol being slower in its action and its influence more protracted. But when methyl alcohol is ingested in small and continuous doses the effect is far more deadly than is that of grain alcohol in that its action is cumulative and that it forms within the body formic acid. The eye is peculiarly susceptible to the poison of wood alcohol, it acting upon that organ in the most virulent manner and producing degenerative changes of the most serious kind. The symptoms of methyl alcohol poisoning are extremely plain, as typical in their way as those of poisoning by strychnine. The investigations of Dr. Buller and Dr. Wood have confirmed the suspicions held by many physicians that the fumes of methyl alcohol are a distinct menace to eyesight and to the general health. They further believe that the external use of "deodorised" wood alcohol in liniments, alcohol "rubs," in baths, in cosmetics, hair tonics, perfumes, &c., is a source of danger to the eyesight. If this be so the cheaper brands of witch-hazel, bay rum, &c., used so largely by barbers are dangerous. The investigators finally suggest that wood alcohol in any of its forms should be regarded as a poison and its sale restricted accordingly. Whisky presumably made from wood alcohol, according to the New York daily journals of Oct. 10th, has within 12 days killed 25 individuals who drank the compound in a certain district on the east side of New York. The use of wood alcohol, however, in medicinal and flavouring agents and in preparations for external applications is the most insidious and deadly mode of injuring eyesight and health. The cheaper qualities of such preparations are sold to persons too ignorant to judge as to their properties and easily misled by specious advertisements. The consequence is that a remedy is bought which may cause blindness or death or a preparation is used externally which may do serious injury. In these circumstances the general public should be protected by legislation.

Oct. 18th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Prevention of Consumption.

The municipal council of Sydney is taking steps to prevent the spread of consumption. The following clause, to be included in the New Corporation Bill, has been agreed to:—

> The council may establish in this city and maintain out of the city funds dispensaries for the purpose of providing medicines and drugs for the use of persons suffering from consumption and may make by-laws in regard thereto, including therein power to charge fees for the supply of such medicines or drugs, and may also in such by-laws provide for the issue of any such medicines or drugs free of charge to poor persons.

A set of by-laws has also been drafted making tuberculosis of the lung and larynx compulsorily notifiable both by medical

attendants and the occupier of premises in which any affected person resides.

Prevalence of Consumption.

It has lately been assumed that consumption is unduly prevalent in Australia. The figures of the Government statist of New South Wales show that it is responsible for about one-tenth of the total deaths, or about 4000 a year.

Hospital Affairs.

This is the time of the year when most of the hospitals hold their annual meetings. The report of the Alfred Hospital, Melbourne, stated that during the year 1910 in-patients were admitted, and of these 1626 were discharged cured or relieved, 92 were discharged unrelieved or incurable, and 195 had died. There were now 164 patients remaining in the institution. While the number of patients treated had increased from 5930 to 8885 in the last ten years, the percentage of deaths had fallen from 10·12 to 9·43. The receipts had on the whole been satisfactory but the maintenance account was £558 in debt and the total debit balance was £1026.—The report of the Women's Hospital, Melbourne, showed that there had been a large increase in the number of patients admitted to the infirmary department, the number being 552, as compared with 411 for the previous year. The admissions into the midwifery department were 1490, as against 1460 for the previous year, and 1120 infants were born, an increase of 25. There were 1121 out-patients, being an increase of 78. Notwithstanding all the efforts of the committee and staff there were still 420 patients waiting for admission into the infirmary department. The overdraft on the maintenance account was £1368 8*s.* 8*d.*, as compared with £93 9*s.* 1*d.* at the commencement of the previous financial year. The committee appealed to the public to furnish means to remove some of the old and inconvenient buildings and to put up modern ones. The total expenditure, including maintenance, administration, and extraordinary expenditure, was £7425 13*s.* and the total receipts fell short of this by £1368 8*s.* 8*d.*—The seventh annual report of the Queen Victoria Hospital, Melbourne (for women, officered by women), stated that within the hospital, which contains 18 beds, 278 patients received treatment during the year, while in the out-patients' department 3689—numbering 14,225 attendances—had been treated. Miss Helen Sexton, M.B., had resigned her position on the out-patient staff and had been appointed honorary surgeon to in-patients only. Miss Edith Barrett, M.B., had been appointed honorary medical officer to out-patients in her stead.—The thirty-seventh annual report of the Eye and Ear Hospital, Melbourne, showed that during the year 704 in-patients and 5559 out-patients (with 28,734 attendances) had been treated. The year's revenue was £3792 11*s.* 6*d.* and the expenditure was £3567 0*s.* 9*d.* The report also stated:—

> The negotiations which have been so long carried on between the committee, the Melbourne and Metropolitan Board of Works, and the Government, respecting the acquisition by the hospital of the adjoining piece of land, are still being actively continued, but much regret is felt at the very slow progress made. Meantime the patients, whilst waiting turn to see the doctors, are subjected to excessively crowded and unhealthy conditions and the doctors are compelled to do their work in an atmosphere vitiated exceedingly and in quarters so cramped that they are unable to perform their duties with entire satisfaction.

On this subject a deputation subsequently waited on the Premier. It was pointed out that the hospital was overcrowded and must be enlarged and the only available piece of ground suitable for the extension of the buildings was the one adjoining owned by the Board of Works. The committee was prepared to treat the matter from a business point of view. If the Government would exchange a piece of land which it owned (and let to the Board) for the land required by the hospital the committee would pay the Government the value of the land on terms extending over a period of years and provide for interest and sinking fund. The Premier replied that the Government would then lose the rental now received by it from the Board and he valued the ground more highly than the committee did. He promised to give the matter careful consideration.—The inspector of charities in his annual report stated that St. Vincent's Hospital, Melbourne, treated during the year 9904 patients and the average cost of each patient was £2 19*s.* 4*d.* The cost per bed was £44 13*s.* 7*d.*, compared with £53 17*s.* 2*d.*, the mean cost of general hospitals in Victoria.

> The institution is, he said, one of the most economically managed of all hospitals in the State. It is also exceptionally well supported by the public, as it receives by a long way the highest rate per daily average. This result is worthy of congratulation, more especially when it is remembered that paid collectors are not employed in connexion with the institution. In addition to these facts the hospital is kept up to date and from every point of view is one of the most efficient in the State.

—A deputation recently waited on the Premier to ask for an increased grant in aid of the Williamstown Hospital. The Premier replied that the departmental officers informed him that the hospital was only for casualties and nearly all the cases could be easily treated at the Melbourne Hospital. He subsequently visited the hospital but made no promise as to further assistance.—At the first annual meeting of the Hospitals Volunteer Help League of Victoria the report stated that in ten months four branches had been formed and had collected up to June last £308 by 162 volunteer collectors from 1110 persons in contributions varying from 1*d.* to 3*s.* a week. Every penny collected, without any deduction, went to the hospitals. In other collections for charity the deductions for commission and expenses ranged from 10 to 40 per cent. If the scheme could be extended to the whole of the State it would go a long way towards solving the difficulty of adequately supporting the hospitals.

Sept. 13th.

Obituary.

ANGEL MONEY, M.D. LOND., F.R.C.P. LOND.,

LATE ASSISTANT PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL AND THE CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.

WE much regret to record the death, at the early age of 48 years, of Dr. Angel Money, which occurred on Sept. 2nd at Sydney, New South Wales.

Dr. Angel Money, whose name owing to his long establishment in Australia is not familiar to the younger members of the medical profession in England, was regarded some 20 years ago as among the most promising physicians in London. Born in 1856, he entered the medical school of University College Hospital in 1873 and his career there was one of exceptional brilliance. In 1879 he obtained his first qualification as Member of the Royal College of Surgeons of England and in the following year graduated as Bachelor of Medicine and Bachelor of Surgery in the University of London. After filling the usual residential appointments he proceeded to the M.D. of the University of London in 1881 and later became a Member of the Royal College of Physicians of London. In 1885 he was elected assistant physician to the Children's Hospital, Great Ormond-street and in 1887 he received the same recognition of his sterling merits at the hands of his own hospital. Most of our readers know the competition that exists among young physicians for the staff appointments at such institutions as University College Hospital and the Great Ormond-street Hospital and the competition was well nigh as acute some 20 years ago as it is now, so that Dr. Angel Money's double election while still so young in years and practice forms a signal proof of the position which he occupied in the estimation of his seniors. In 1889 he was elected a Fellow of the Royal College of Physicians of London, having been also appointed assistant physician to the Hospital for Diseases of the Chest, Victoria Park. In 1883 he joined the staff of THE LANCET, having already written a text-book on the Diseases of Children which proved of value to many students, and also, a little prematurely, a manual of medicine.

Alas, to a career so successfully begun, and probably a little too full and strenuous for the actor, a grave check was now to come. A very ambitious student he developed into a very ambitious man, ever straining to advance in his profession more quickly than was possible. Always at work, his work suffered from his constant impatience to achieve results—a fact which was proved by his endeavour to write a systematic text-book upon medicine at what may be termed the threshold of his career. He had a splendid memory and rapid methods of study, so that even as a student he was able to make and to retain a very wide acquaintance with the medical knowledge of the period. He was brimful of his subjects and ever ready to pour out his knowledge, so that when he was appointed assistant physician to University College Hospital he at once became a most popular teacher, a certain effective extravagance of epithet serving to rivet his clinical lessons in his pupils' recollection. Dr. Money's phraseology no less than his too great ambition displayed the eccentricity which was to

mar his career. Hardly had his friends and colleagues begun to realise the premonitory symptoms when a complete and terrible nervous breakdown closed his life in London. Rest and treatment brought him back to mental and physical health, but it was necessary for him to make a completely new start in more favourable circumstances and in a new environment. Two years after his appointment as assistant physician to University College Hospital he resigned all his posts and went to Australia. Here he in time entered medical practice but he made no attempt to resume scientific relations with his former colleagues. As a leading physician and teacher his race was run and he seems to have recognised the sad fact.

We owe to Dr. Money's memory a debt of personal gratitude. During the long and painful illness of the late Dr. James Wakley, as reference to THE LANCET of Sept. 4th, 1886, p. 465, will show, he, taking turns with another kind and skilful friend, for several months on alternate nights went down to Dr. Wakley's country house at Longcross, near Chertsey, to tend him—to quote the words of the notice referred to, "quite regardless of their own convenience."

As a member of the staff of THE LANCET he proved an extremely valuable colleague. He had no marked gift of expression—no knack of putting upon paper what he had to say in the telling style he could use when teaching verbally, but he was enormously well-informed upon all medical topics and was indefatigably employed in the clinical pursuit of his subjects. This made what he had to say of great practical worth and if his life had not been interrupted, and if experience had furnished him with self-control, there is little doubt that he would have placed his name upon some large and authoritative text-book. Of his zeal, sincerity, and ability there could be no doubt.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the examinations held in October the following candidates passed in the subjects indicated:—

Surgery.—B. H. Hirst (Sections I. and II.), Leeds; and E. E. Tucker (Sections I. and II.), Royal Free Hospital.

Medicine.—C. W. S. Boggs (Section I.), Leeds; S. F. Cheesman, Charing Cross Hospital; W. H. A. Elliott (Sections I. and II.) and B. H. Hirst (Sections I. and II.), Leeds; M. E. Jeremy (Sections I. and II.), Royal Free Hospital; J. R. R. Trist (Section II.), St. Bartholomew's Hospital; and A. M. Walker (Sections I. and II.), Manchester.

Forensic Medicine.—A. A. Angelis, Athens; W. H. A. Elliott, Leeds; C. H. J. Fagan, St. George's Hospital; B. H. Hirst, Leeds; P. F. Howden, Bristol; C. T. Fellow, St. Thomas's Hospital; and A. M. Walker, Manchester.

Midwifery.—R. Heathcote, Manchester; B. H. Hirst, Leeds; and J. R. R. Trist, St. Bartholomew's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: A. A. Angelis, W. H. A. Elliott, B. H. Hirst, and E. E. Tucker.

UNIVERSITY OF EDINBURGH.—At the special graduation ceremonial held on Oct. 22nd the following degrees and certificates were conferred:—

Degree of Doctor of Medicine.—Thomas Garnet Stirling Leary, Ireland, M.B., Ch.B. 1900.

Degrees of Bachelor of Medicine and Master in Surgery.—James Walker Dawson, Scotland.

Degrees of Bachelor of Medicine and Bachelor of Surgery.—Alexander Watt Beveridge, Scotland; Fernichirst Halidon Borthwick, Scotland; Robert Buchanan, Scotland; Alan Gibb Cook, India; James Craw,* Scotland; Frederick Douglas Crosthwaite, England; Graham Thomson Drummond, Scotland; Charles Lindsay Eyles, India; Gerard Hall Lloyd Fitzwilliams, Wales; Noel John Hay Gavin, New Zealand; Hope Murray Gillespie, Scotland; Vinayak Ramchandra Gorakshakar, B.A., India; Alexander Stewart Gordon, Scotland; Oliver Campbell Greenidge, Barbados; John Grieve, Scotland; Philip Hallam, England; Lawrence Campbell Vigor Hardwicke, England; Annie Jackson, England; Francis Edmond Larkins, England; Samuel Alexander M'Clintock, Ireland; John MacDonald, Ireland; Venancio Moralejo, Venezuela; John Morris, Wales; Carl Friedrich Alfred Oberländer, Cape Colony; Ronald Graeme Scott Orbell, New Zealand (*in absentiâ*); Garfield Ormrod, England; Robert Abraham Logan van Someren, Straits Settlements; Herbert Jamieson Stewart, Australia; Effie Gordon Stuart, Scotland; James MacBain Taylor, Scotland; Walter Croker Poole White, England; William Frederic James Whitley, England; and George Hamilton Winch, England.

* Passed with first-class honours.

Special University Certificate in Diseases of Tropical Climates.—Fernichirst Halidon Borthwick, M.B., Ch.B., Alan Gibb Cook, M.B., Ch.B., Hope Murray Gillespie, M.B., Ch.B., Lawrence Campbell Vigor Hardwicke, M.B., Ch.B., Samuel Alexander M'Clintock, M.B., Ch.B., Garfield Ormrod, M.B., Ch.B., James Donald Sinclair, M.R.C.S., L.R.C.P. (*in absentiâ*), and Robert Abraham Logan van Someren, M.B., Ch.B.

THE HOSPITAL OFFICERS' ASSOCIATION.—This association held its second annual dinner on Oct. 22nd, at the City of New York Restaurant, Holborn. The President of the association, Mr. Lewis H. Glenton-Kerr, was in the chair and was supported by Mr. J. Danvers Power as the guest of the evening and about 70 members and visitors. Mr. Power, replying to the toast of "The Hospitals," stated that a successful hospital was one of which it was said it was doing its best. Practically the officers of each institution were the only people who really knew all the circumstances and on them depended the future of London hospitals. What they required, however, were the advantages of coöperation and those they could not very well get for themselves without outside assistance. He thought that some one or other or all of the great collecting funds had it in their power to give help in this direction. Many questions, as, for instance, "payments of patients" and "pensions for officers," on which the practice now differed, might be competently and thoroughly investigated by specially appointed committees which would advise, the rest being left to the hospitals themselves. If the hospitals followed the advice given they would be presenting a united front to a disunited public. That would be coöperation and its advantages were apparent. An excellent musical programme concluded a very enjoyable evening.

THE CONTINENTAL ANGLO-AMERICAN MEDICAL SOCIETY.—The annual meeting of this society was held in Paris at the residence of the honorary secretary, Dr. Leonard N. Robinson, on Oct. 11th, Dr. Dupuy (Paris) being in the chair. The honorary secretary announced that Dr. Philip Frank and Dr. StClair Thomson had written thanking the society for electing them to be honorary presidents. He also said that after a plebiscite of the society a letter was written in July to the editor of the *Daily Messenger* stating that the members were opposed to the publication of their photographs but that there was no objection to the name of a medical practitioner being given or to his supplying a few notes on the health resort in which he practised, and the class of cases for which it was suitable, for issue in the proposed Christmas number of the paper. The vacancies on the executive committee were filled by the re-election of Dr. G. C. Bright (Cannes), Dr. Austin (Paris), and Dr. H. Danvers (Cairo). Dr. StClair Thomson, Dr. D. W. Samways, Dr. Warden, and Dr. Robinson were appointed to arrange a luncheon of the society at the meeting of the British Medical Association at Leicester in 1905. Six candidates for membership were duly elected. It was decided (1) to issue a medical directory for the use of members; (2) to ask the opinion of each member as to the best means of permitting travellers to hear of the existence of the society; and (3) to hold the annual meeting and dinner of the society in 1905 during the International Congress of Tuberculosis. The secretary was instructed to send a congratulatory telegram to Sir William H. Broadbent on the occasion of the visit of the French physicians and surgeons to London. The annual dinner of the society was held at the Hôtel du Palais d'Orsay, the chair being taken by Dr. Dupuy, in the absence of M. J. Lucas-Championnière who had gone to London. After the chairman had proposed the loyal toasts of "The King," "The President of the United States," and "The President of the French Republic," Mr. Edgar Gallet proposed the toast of "The Society," pointing out how much good was done by medical men and, for that matter, men in any branch of profession or business meeting together to exchange ideas and to keep in touch with each other. Dr. Rivière proposed the toast of the "Entente Cordiale," saying with what pleasure he noticed that French newspapers of the most divergent views now lauded the *entente* which at this very moment was asserting itself with so much authority. Continuing, he said: "Our annual dinner has been presided over in rotation by men eminent in the profession in France, England, and America. Professor Lancereaux has presided at the dinner of the society and Sir William Broadbent is now the president of the committee which has organised the splendid reception being given in London to our French colleagues. The members of the society could not remain indifferent in face of the sympathies which draw nearer together the practitioners of the two countries. Our sentiments, the character even of our profession, our daily relations with people of all nationalities, make us raise our glasses not only to the *entente confraternelle* but to the great

Anglo-French *entente* and to the still greater international *entente*, the final conclusions of which will shortly be adopted in the United States, that land of liberty and of every progress." Dr. Cree proposed "The Guests," coupled with the names of Dr. Ramonède and Dr. Lutaud. Dr. Bull proposed "The Chairman" and Dr. Dupuy in his reply said how much they all regretted the absence of Dr. the Hon. Alan Herbert who had never previously failed since the formation of the society to take part in the annual meeting.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. A. D. Kennedy, M.B., Ch.B. Glasg., was recently presented with a purse of sovereigns, a case of medical instruments, and two medical books on the occasion of his leaving Ballachulish. The presentation was made by Dr. Lachlan Grant.

DONATIONS AND BEQUESTS.—The Royal Victoria Hospital, Dundee, has received from Mr. R. F. Ogilvy, on behalf of himself, his brother, and his sister, £1000 for general administrative purposes. Provost Moncur has recently offered to give £5000 towards the erection and equipment of a new cancer ward at the same institution.

THE SELBORNE SOCIETY.—Mr. Wilfred Mark Webb, F.L.S., who has been identified with the nature-study movement for the last five or six years, has accepted the honorary secretaryship of the Selborne Society. This flourishing association has at the present time nearly 1500 members scattered over the whole of the United Kingdom and it is interesting to chronicle that at a general meeting held a short time ago the promotion of the study of natural history was made the first object of the society. Influence is, however, still being exerted to preserve from needless destruction such wild animals and plants as are harmless, beautiful, or rare; to discourage the wearing of furs and feathers of creatures that are in danger of being exterminated; and to protect places and objects of natural beauty and antiquarian interest from ill-treatment or destruction. The office of the society is at 20, Hanover-square, London, W., and all communications should be sent to the secretary of the Selborne Society at that address.

WEST LONDON POST-GRADUATE COLLEGE.—The winter session of the Post-Graduate College at the West London Hospital, Hammersmith-road, W., was opened by the Bishop of Oxford on Oct. 13th. Dr. Donald W. C. Hood, senior physician of the hospital, presided and there was a large attendance of students. The Bishop of Oxford, in the course of his opening address, said he was speaking to many students who had long been serving their fellow men and bearing the burden of responsibility for their welfare. He believed that just because they were not students in the ordinary sense of the title they might be, if they would, the best students of all. They might feel, perhaps, that for the work of a student they had lost some of the opportunities of their earlier days, particularly the opportunity of uninterrupted study, but had they not gained some distinctive advantages? In the first place it was a real advantage to know the practical need and worth of thorough knowledge. Unless their minds were touched with the disease known as self-satisfaction and their hearts were unsound, they must at times have felt the misery of ignorance. It was one thing to be told beforehand that without learning they could not do the work of their profession; it was another thing to realise for themselves by the humiliating discipline of their own resourcelessness that it really was so. If they had any care at all for their work they could hardly pass a week or a day without wishing heartily that they knew far more than they did, without seeing that knowledge was power and that ignorance was not far from helplessness. In the second place, he thought that they might find that in the experience of life they had become better students, and that new knowledge had a greater chance of living and growing in their minds and of unfolding its full meaning. The ingrained habit of study, the love of reading, watching, thinking, was the real provision for old age that was wanted. He had known cases in which it had produced calmness, self-possession, and gratitude which might go on through long trials of patience. He should always think of that as no small part of the student's glory, though the best of it was to come when they had to do with the very truth and light of all they learned in the field of study.—On the motion of Mr. C. R. B. Keetley a vote of thanks was accorded to the bishop for his address and the proceedings then terminated.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.

La Chirurgie du Médiastin Antérieur (Cœur et Péricarde Exceptés). Par le Dr. Maurice Auvray, Professeur Agrégé à la Faculté de Médecine de Paris, Chirurgien des Hôpitaux de Paris. Price Fr.6.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.

Guide to the Examination of the Throat, Nose, and Ear: for Senior Students and Junior Practitioners. By William Lamb, M.D., C.M. Edin., M.R.C.P. Lond., Honorary Surgeon, Birmingham Ear and Throat Hospital. Price 5s. net.

Malignant Disease of the Larynx (Carcinoma and Sarcoma). By Philip R. W. de Santi, F.R.C.S., Surgeon to the Throat, Nose, and Ear Departments, Westminster Hospital. Price 4s.

Aids to the Study of Sanitary Law. By Harry Critchley, M.A., M.D., D.P.H., &c. Price, cloth 2s. 6d., paper 2s.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

Urine Examination Made Easy. A Method of Examining Urine with the Common Tests Fully Described. By Thomas Carruthers, M.A., M.B., Ch.B. Price 1s. 6d. net.

CONSTABLE, ARCHIBALD, AND CO., LIMITED, London.

Science and Immortality. By William Osler, M.D., F.R.S., Regius Professor of Medicine at Oxford University. Price 2s. 6d.

DEPARTMENT OF HEALTH, CITY OF CHICAGO, U.S.A. (Arthur R. Reynolds, M.D., Commissioner).

Vital Statistics of the City of Chicago for the Years 1899 to 1903 inclusive. Price not stated.

F. A. DAVIS COMPANY, 1914–16, Cherry-street, Philadelphia, Pa., U.S.A.

Handbook of the Anatomy and Diseases of the Eye and Ear. For Students and Practitioners. By D. B. St. John Roosa, M.D., LL.D., Professor of Diseases of the Eye and Ear in the New York Post-Graduate Medical School; and A. Edward Davis, A.M., M.D., Professor of Diseases of the Eye in the New York Post-Graduate Medical School. Price $1.00 net.

Diseases of the Nose, Throat, and Ear and their Accessory Cavities. By Seth Scott Bishop, M.D., D.C.L., LL.D., Honorary President of the Faculty and Professor of Diseases of the Nose, Throat, and Ear in the Illinois Medical College. Third edition, thoroughly revised and enlarged. Price $4.00 net.

GALE AND POLDEN, LIMITED, 2 Amen-corner, Paternoster-row, E.C.

Body-Building, or Man in the Making: How to become Healthy and Strong. Containing sets of Exercises and Special Photos of Mr. Sandow and Family. Written by Eugen Sandow, author of "Strength and How to Obtain it." Price 1s.

HARPER AND BROTHERS, 45, Albemarle-street, W.

The Cycle of Life According to Modern Science, being a Series of Essays designed to bring Science home to Men's Business and Bosoms. By C. W. Saleeby, M.D. Price 7s. 6d.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Beitrage zur wissenschaftlichen Medicin und Chemie. Festschrift zu Ehren des sechzigsten Geburtstages von Ernst Salkowski. Price M.12.

Die Wirkungen von Arzneimitteln und Giften auf das Auge. Handbuch für die gesammte ärztliche Praxis. Von Dr. L. Lewin, Professor in Berlin, und Dr. H. Guillery, Oberstabsarzt in Cöln. I. Band. Price M.22.

JOHNSON, R. BRIMLEY, 4, Adam-street, Adelphi, W.C.

The Heart of Humanity and the Growth of God in Man. By Sydney Hallifax, author of "The Heart of a Heretic," "Annals of a Doss-house," &c. Price 2s. 6d. net.

LEWIS, H. K., 136, Gower-street, W.C.

Medical Electricity. A Practical Handbook for Students and Practitioners. By H. Lewis Jones, M.A., M.D., Fellow of the Royal College of Physicians; Medical Officer in Charge of the Electrical Department in St. Bartholomew's Hospital, London. Fourth edition, with illustrations. Price 12s. 6d. net.

LISIECKI, FRANK F., 9-15, Murray-street, New York.

The Surgical Treatment of Bright's Disease. By George M. Edebohls, A.M., M.D., LL.D., Professor of the Diseases of Women in the New York Post-Graduate Medical School and Hospital. Price not stated.

LONDON ARGUS LIBRARY OF FICTION.

A Sparrow, a Mouse, and a Man. A Study of Solitude. By George H. B. Dabbs, M.D., author of "Ugly, a Hospital Dog," &c. No. 1. Price 6d.

PULMAN AND SONS, GEORGE, LIMITED, Thayer-street, W.

The Blind Man's World. An English version of "Entre Aveugles." Advice to People who have Recently Lost their Sight. By Dr. Emile Javal, Directeur Honoraire du Laboratoire d'Ophthalmologie de l'Ecole des Hautes Etudes, Membre de l'Académie de Medecine. Translated by W. Ernest Thomson, M.A., M.D., Surgeon to the Glasgow Eye Infirmary, Ophthalmic Surgeon, Glasgow Maternity Hospital. Price 3s. net.

REBMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

Surgical Anatomy of the Head and Neck. By John B. Deaver, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. Price £2 12s. 6d. net.

RUDEVAL, F. R. DE, 4, Rue Antoine Dubois (VIe), Paris.

Les Accidents du Travail: Méticine Légale-Jurisprudence. Par Gustave Ollive, Professeur à l'Ecole de Méticine de Nantes, et Henri Le Meignen, Médecin suppléant des Hôpitaux, Chef des Travaux physiologiques à l'Ecole de Médecine de Nantes. Avec la Collaboration (pour la partie ophthalmologique) du Dr. E. Aubineau, Chirurgien-adjoint de l'Hôpital civil de Brest. Préface de MM. Brouardel, Benoit et Constant. Price Fr.8.

SAMPSON, LOW, MARSTON AND CO., LIMITED, St. Dunstan's House, Fetter-lane, Fleet-street, E.C.

The Guide to South Africa. For the Use of Tourists, Sportsmen, Invalids, and Settlers. With Coloured Maps, Plans, and Diagrams. Edited annually by A. Samler Brown and G. Gordon Brown, for the Union Castle Mail Steamship Company, Limited (Donald Currie and Co., Managers), 3 and 4, Fenchurch-street, London, E.C. 1904–1905 edition. Twelfth edition. Price 2s. 6d.

SANITARY PUBLISHING COMPANY, LIMITED, 5, Fetter-lane, Fleet-street, E.C.

New Streets: Laying Out and Making Up. By A. Taylor Allen, Mem. Society of Engineers, Mem. Association Municipal and County Engineers, Engineer and Surveyor, Portslade-by-Sea Urban District Council. Price 3s. net.

SAUNDERS, W. B. AND COMPANY, 9, Henrietta-street, Covent-garden, W.C.

Pathological Technique. A Practical Manual for Workers in Pathological Histology and Bacteriology, including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School, and James Homer Wright, A.M., M.D., Director of the Clinico-Pathological Laboratory of the Massachusetts General Hospital. Third edition, revised and enlarged. Price 13s. net.

The Principles of Hygiene. A Practical Manual for Students, Physicians, and Health Officers. By D. H. Bergey, A.M., M.D., Assistant Professor of Bacteriology, University of Pennsylvania. Second edition, thoroughly revised and enlarged. Price 13s. net.

A Text-book of Clinical Diagnosis by Laboratory Methods. For the Use of Students, Practitioners, and Laboratory Workers. By L. Napoleon Boston, A.M., M.D., Associate in Medicine and Director of the Clinical Laboratories, Medico-Chirurgical College, Philadelphia. Price 18s. net.

A Manual of Personal Hygiene: Proper Living upon a Physiologic Basis. By American Authors. Edited by Walter L. Pyle, A.M., M.D., Assistant Surgeon to the Wills Eye Hospital, Philadelphia. Second edition, revised and enlarged. Price 6s. net.

A Text-book of Materia Medica, including Laboratory Exercises in the Histologic and Chemic Examination of Drugs. For Pharmaceutic and Medical Schools and for Home Study. By Robert A. Hatcher, Ph.G., M.D., Instructor in Pharmacology, Cornell University Medical School, New York; and Torald Sollmann, M.D., Associate Professor of Pharmacology and Materia Medica in the Medical Department of Western Reserve University, Cleveland, Ohio. Price 10s. net.

A Handbook of Surgery for Students and Practitioners. By Frederic Richardson Griffith, M.D., Surgeon, Bellevue Dispensary. Price 10s. net.

Examination of the Urine. A Manual for Students and Practitioners. By G. A. De Santos Saxe, M.D., Assistant Pathologist to the Columbus Hospital, New York. Price 6s. 6d. net.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, Strand, W.C.

The Modern Nursing of Consumption. By Dr. Jane H. Walker, Physician to the New Hospital for Women, London, and Medical Superintendent of the East Anglian Sanatorium, Nayland, Suffolk. Price 1s. net.

SPEMANN, W., Stuttgart.

Spemann's Historischer Medicinal-Kalender. Bearbeitet von Prof. Dr. J. Pagel und Prof. Dr. J. Schwalbe in Berlin. Price M.2.

STANFORD, EDWARD, 12, 13, and 14, Long Acre, W.C.

Stanford's Geological Atlas of Great Britain. (Based on Reynold's Geological Atlas.) With Plates of Characteristic Fossils. Preceded by a Description of the Geological Structure of Great Britain and its Counties; and of the Features observable along the Principal Lines of Railway. By Horace B. Woodward, F.R.S., F.G.S. Price 12s. 6d. net.

TAYLOR AND FRANCIS, Red Lion-court, Fleet-street, E.C.

Calendar of the Royal College of Surgeons of England. August 1st, 1904. Price 1s.

UNIVERSITY CORRESPONDENCE COLLEGE, Burlington House, Cambridge. London Office: 32, Red Lion-square, Holborn, W.C.

The Calendar, 1904–1905. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BROCKBANK, EDWARD MANSFIELD, M.D. Vict., M.R.C.P. Lond., has been appointed Junior Honorary Physician, Manchester Children's Hospital.

GRANT, W. P., M.Sc., M.B., Ch.B. Vict., M.R.C.S., L.R.C.P., has been appointed Junior House Surgeon to the Birkenhead Borough Hospital.

KALOMIRIS, N., L.R.C.P. Lond., F.R.C.S., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

NAIRN, A. BALFOUR, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Pathologist and Assistant Medical Officer to the West Riding Asylum, Wakefield.

ORMEROD, HENRY LAWRENCE, M.D., B.Ch. R.U.I., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Henbury District by the Thornbury Guardians.

PAINE, ALEXANDER, M.D., B.S. Lond., D.P.H., has been appointed as Joint Pathologist with Dr. D. J. Morgan to the Cancer Hospital.

PARSONS, WALTER BROCK, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Anæsthetist to the Royal Dental Hospital, Leicester-square.

ROME, J. A. D., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Honorary Surgeon to the Manning River District Hospital, Taree, New South Wales.

ROSS, J. A., M.B., Ch.B. Edin., has been appointed Junior House Surgeon to the Croydon General Hospital.

ROTHWELL, WILFRED E., M.B., B.Ch. Vict., has been appointed Third Assistant Medical Officer at the Manchester Union Infirmary, Crumpsall.

WALL, R. C. B., M.D. Lond., has been appointed Assistant Physician at the London Hospital.

WALLACE, A. TAYLOR, L.D.S. R.C.S. Eng., has been appointed Honorary Dental Surgeon to the Convalescent Home at Weston-super-Mare.

WILLS, KENNETH, M.A., M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Physician to the Skin Department of the Bristol General Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Surgical Assistant for six months. Honorarium at rate of 52 guineas per annum. Also Clinical Assistant for three months. Honorarium at rate of 52 guineas per annum.

BURMA RAILWAYS COMPANY.—Medical Officer. Salary not less than Rupees 750 per mensem.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road.—Registrar.

CIRENCESTER UNION.—Medical Officer for the North District.

CITY OF LONDON ASYLUM, near Dartford, Kent.—Medical Superintendent. Salary £800 per annum, with house, coal, light, laundry, and garden produce.

EDGBASTON, ROYAL INSTITUTION FOR THE INSTRUCTION OF DEAF AND DUMB CHILDREN.—Medical Officer. Honorarium 60 guineas per annum.

GUY'S HOSPITAL MEDICAL SCHOOL.—Gordon Lectureship on Experimental Pathology.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50, with board and lodging.

IRELAND, QUEEN'S COLLEGES.—Musgrave Professorship of Pathology.

LEAMINGTON, WARNEFORD HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and apartments.

LIVERPOOL HOSPITAL FOR CONSUMPTION.—Honorary Assistant Physician.

MATLOCK, SMEDLEY'S HYDROPATHIC ESTABLISHMENT.—Resident Physician. Salary £150.

MENSTON, NEAR LEEDS, WEST RIDING ASYLUM.—Resident Clinical Clerk (female). Board and residence.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Surgeon.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, London, W.C.—House Physician. Salary £50 a year, with board and residence.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board and residence.

PECKHAM HOUSE ASYLUM.—Second Assistant Medical Officer. Salary £150.

PORTSMOUTH, ROYAL HOSPITAL.—Senior House Surgeon, unmarried. Salary at rate of £100 per annum, with board, residence, &c.

ST. BARTHOLOMEW'S HOSPITAL.—Assistant Surgeon.

ST. MARY'S HOSPITAL FOR SICK CHILDREN, Plaistow, E.—Resident Medical Officer, unmarried. Salary at rate of £100 per annum, with board, residence, and laundry.

ST. THOMAS'S HOSPITAL.—Resident Assistant Surgeon.

SOCIETY OF APOTHECARIES OF LONDON.—Gillson Scholarship in Pathology. Value £90, tenable for one year.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Assistant Physician.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary £100, with board and residence.

THROAT HOSPITAL, Golden-square, W. Senior Clinical Assistant.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Terms £70 per annum, with rooms, board, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BARTON.—On Oct. 24th, at Lingfield-road, Wimbledon, the wife of P. Frederic Barton, M.A., M.B., B.C. Cantab., of a son.

BROWN.—On the 25th inst., at Hill View, Streatham-common, S.W., the wife of T. H. Brown, M.B., B.C. Camb., of a son.

DUHIG.—At Little Langtons, Hornchurch, Essex, on 21st October, 1904, the wife of David John Duhig, a son.

JAMES.—On Oct. 18th, at Hungerford, Berks, the wife of Robert Blake James, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

LING.—On Oct. 20th, at Harley-house, Regent's-park, the wife of Maurice E. Ling, M.D., of a son.

DEATHS.

ODELL.—14th Oct., at Hertford, Hannah, widow of the late Thomas Odell, M.R.C.S., L.S.A., of that town, aged 69.

RUSSELL.—On Oct. 22nd, suddenly, at Edinburgh, James Burn Russell, M.D., LL.D., Medical Member Local Government Board for Scotland, and formerly Medical Officer of Health, Glasgow.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

DIFFICULTIES UNDER THE VACCINATION ACTS.

A CORRESPONDENT requests our opinion upon the following case. It must be premised that he is not a public vaccinator. Some months ago he vaccinated a patient and the parents did not bring the child to be inspected, because, he suggests, they had not paid the fee. Nothing more was heard of the matter until our correspondent received a letter, dated Oct. 25th, from the vaccination officer, saying that he had heard that our correspondent did not at all times deliver to the parents at the time of inspection the certificate of vaccination in accordance with the Act and that thereby he had rendered himself liable to a penalty.

Under the provisions of Section 7 of the Vaccination Act, 1871, "when a medical practitioner who is not a public vaccinator inspects a child to ascertain the result of the operation of vaccination such medical practitioner, as soon as he has ascertained that the operation has been successfully performed, shall deliver to the parent causing the child to be vaccinated a certificate of successful vaccination in the proper form and duly filled up and signed by him." Any failure to comply with the provisions of this section renders the offender liable to a penalty not exceeding 20s. It is doubtless under this section that our correspondent is threatened with prosecution. But in the event of such a prosecution it would be necessary to prove that the child had been inspected and we gather from our correspondent that in the case in question no such inspection had taken place. It devolves upon the parent to procure and to send the proper certificate to the vaccination officer. It appears to be a not uncommon thing in some towns for parents to secure the vaccination of their children and to fail to present the children for inspection and the necessary certificate. The vaccination officer, not having received from the parents the necessary certificate, summons the parents and, according to our correspondent, is "rather sharply reprimanded by the magistrates." But this reprimand seems to us rather unfair, seeing that the parents not infrequently keep back the fact of vaccination from the vaccination officer in order that they may be summoned and enabled to show the vaccinated child in court. Our correspondent should write to the clerk to the guardians, pointing out that in the case in question the child has not been presented for inspection. It then devolves upon the vaccination officer to press the parents for the certificate. Our correspondent should, however, be careful how he acts. If it was arranged that he should visit the home of the child to inspect it he ought at least to offer to fulfil his contract before alleging that the parents abstain from bringing the child to be inspected because they owe him for the vaccination. The inspection and certificate are probably part of the contract. As regards the second question which our correspondent puts we do not see our way to offer him any useful advice.

THE VALUE OF TURTLE SOUP.

To the Editors of THE LANCET.

SIRS,—But little is known of the chemistry of gelatin and its allied mucin. That the above soup is a wonderful restorative in many diseases is a well-known fact. Why? It has occurred to me that the turtle may supply the mucus continuously lost in diseases affecting the lining membranes of the alimentary and respiratory tracts. Perhaps your other readers may have something to say on the subject.

I am, Sirs, yours faithfully,

E. STANLEY HOARE, D.P.H. Lond., &c.

St. George's square, S.W., Oct. 22nd, 1904.

*** Gelatin is a most powerful "proteid sparer"—acts, that is, as a preventive of proteid waste, saving the tissues, and has, moreover, the property of fixing acid in the digestive process. The peculiar form of gelatin, chondrin, or mucin in turtle soup may possibly possess these properties in a superior degree.—ED. L.

PLASMON OATS.

IN our analytical notice of this preparation last week it was stated that the total proteid was found to be 10 per cent. more than in the best kind of oats. This expression meant that while in ordinary prepared oats of good quality the amount of proteid was 15 per cent., in plasmon oats it was nearly 25 per cent. The indigestible fibre (cellulose, &c.) was found to be about one-third that usually found in good oatmeal.

VACCINATION PADS.

IN answer to the inquiry relative to vaccination pads in THE LANCET of Oct. 8th Mr. J. D. Staple (a public vaccinator of the Bristol union) writes that he has for some years used the vaccination pads manufactured by Messrs. Ferris and Co. of Bristol and has always found them highly satisfactory. The price is 12*s.* per gross.

THE CLIMATE OF PENZANCE.

To the Editors of THE LANCET.

SIRS,—Having resided in Penzance as a retired medical man for upwards of two years I am anxious to bring under the notice of your readers some of its advantages as a winter health resort. In the colder months of the year it has a record of the warmest climate in the British Isles, the mean temperature during the winter months being 48·31°. It is most valuable for cases of bronchitis, certain forms of asthma, and phthisis in its advanced stages. There are sheltered public gardens, the aloe, geranium, dracæna, myrtle, and camellia all growing out in the open air during the cold months of the year; promenade with shelters, and pleasant country walks quite near to the town; also good fresh and sea-water baths. The winter mean temperature range was 7·37° for 1903. The water-supply is excellent, being very pure, soft, and free from unpleasant mineral matter.

I am, Sirs, yours faithfully,

Penzance, Oct. 24th, 1904. EDWARD SAMUEL LEE, M.D. St. And.

Puzzled.—All the styles which "Puzzled" asks about are right. But Dr. Brown, M.R.C.S., is unusual. It might mean that Brown was M.R.C.S. and a doctor in a faculty other than medicine. "Dr. John Brown, M.D.," may at first sight appear redundant but, on the other hand, "Dr. John Brown" simply might mean that "John Brown" was a doctor of divinity, or of laws, or of medicine, or of science, or of music. The parallel which "Puzzled" draws between "Dr. ——, M.D.," and a baronet does not hold, for "Sir John Jones" might be a knight.

N.X.—In the official return of the Local Government Board there is seldom, if ever, any mention made of adulterants in beer, so, presumably, beer is not mischievously adulterated nowadays. The purity of beer was probably never greater than at the present time, owing to the inquiries instituted in consequence of the epidemic of arsenical poisoning due to contaminated beer. Substitutes for malt are employed, but not for hops, and the presence of strychnine in beer has never been authoritatively stated.

Juvenis.—We should say that the expression "gross earnings" could hardly be taken to include unpaid bills without making a deduction for possible bad debts. The expression to our mind would mean total moneys received or receivable before any deductions have been made for expenses of horses, carriages, drugs, and the like.

J. L., Glasgow.—The "Studies" from Cornell University are published by Cornell University Medical College, New York City.

Medical Benevolent.—(1) Epsom College; (2) Mr. J. B. Lamb or Sir Constantine Holman.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (2nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (3rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9. 30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (5th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (1st).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. **Dr. L. S. Dudgeon**: Acute Lymphatic Leukæmia.—**Dr. C. F. Selous**: Simultaneous Occurrence of Filariæ and Malarial Parasites in the Blood.—**Mr. S. G. Shattock** and **Dr. C. F. Selous**: Two Methods for Comparing microscopically Abnormal

and Normal Tissues.—Mr. G. S. Shattock: The Nature of the so-called Dermoid Cyst of the Ovary.

WEDNESDAY (2nd).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. H. H. Dauber and others. Paper:—Dr. H. R. Spencer: Three Cases of Cancer of the Cervix complicating Labour in Advanced Pregnancy, the Patients remaining well Eleven, Eight and a half, and Eight Years after High Amputation of the Cervix.

THURSDAY (3rd).—RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.15 P.M. Ordinary General Meeting. The Presidential Address.

NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital, N.).—4 P.M. Clinical Cases.

FRIDAY (4th).—WEST KENT MEDICO CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.). 8.45 P.M. Paper:—Dr. Turner: The Treatment of Scarlet Fever, Diphtheria, and Enteric Fever at the South-Eastern Hospital.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith, W.). 8 P.M. Clinical Evening. Cases will be shown by Dr. P. S. Abraham, Dr. A. E. Russell, Mr. A. Baldwin, Mr. B. L. Paton, Mr. G. Simpson, and others.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—Discussion on the Vernon-Harcourt Chloroform Inhaler (opened by Mr. E. Willett). Dr. D. Buxton, Dr. Silk, Dr. Probyn-Williams, Dr. Blumfeld, and others will take part.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases, Specimens, &c., will be shown by Mr. H. B. Waggett, Mr. P. de Santi, Dr. E. F. Potter, Mr. A. H. Cheatle, Mr. A. Roberts, Dr. Kelson, Mr. H. B. Robinson, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (31st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. M. H. Macleod: Clinique. (Skin.) 5.15 P.M. Mr. T. Walker: Pain as a Symptom of Urinary Disease.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Practical Surgery.

TUESDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. O. Hawthorne: Clinique. (Medical.) 5.15 P.M. Mr. J. Hutchinson, jun.: The Surgical Treatment of Neuralgia.

POST-GRADUATE COLLEGE (London County Asylum, Claybury, Woodford Bridge, Essex).—3 P.M. Dr. R. Jones: Examination and Discussion of the Clinical Varieties of Insanity.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Sir W. Gowers: Cases in the Wards.

WEDNESDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Cantlie: Clinique. (Surgical.) 5.15 P.M. Dr. L. Williams: The Therapeutics of some Common Ailments.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. D. Robinson: Uterine Displacements (illustrated with lantern slides).

NORTH-EAST LONDON POST-GRADUATE COLLEGE (North-Eastern Fever Hospital, St. Ann's-road, N.).—2.30 P.M. Dr. H. Cuff: Demonstration on Fevers.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. P. Kidd: Some Points in the Prognosis and Treatment of Pneumonia.

THURSDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. W. Ewart: The Treatment of Acute Heart Disease and of Loss of Compensation.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. H. J. Davis: Nephritis.

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Mr. A. Doran; The Diagnosis and Treatment of Early Extra-Uterine Gestation.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Lecture: Mr. H. Barwell: Principles of Treatment of Laryngeal Cases (illustrated by cases). (Post-Graduate Course.)

CHARING CROSS HOSPITAL.—4 P.M. Dr. Macleod: Demonstration of Dermatological Cases. (Post-Graduate Course.)

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM (City-road, E.C.).—11 A.M. Mr. S. Edwards: Lecture-Demonstration on Diseases of the Rectum.

FRIDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. L. Lack: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Paget: Surgical Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Mr. Ballance: Cerebral Surgery.

SATURDAY (5th).—ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM (City-road, E.C.).—2.30 P.M. Mr. P. Furnivall: Clinical Demonstration in the Out-Patient Department.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 27th, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb.	Remarks at 8.30 A.M.
Oct. 21	29·98	S.	...	69	60	53	56	57	Overcast
,, 22	29·75	W.	0·29	83	60	56	56	56	Raining
,, 23	29·75	S.	0·10	73	60	53	53	54	Cloudy
,, 24	29·98	N.	0·10	74	60	53	53	54	Overcast
,, 25	30·21	N.	...	89	57	46	46	48	Fine
,, 26	30·18	W.	...	63	56	47	48	50	Cloudy
,, 27	30·25	S.	...	54	47	44	44	45	Foggy

During the week marked copies of the following newspapers have been received:—*Scotsman, Aberdeen Weekly Free Press, Carmarthen Journal, Westminster Gazette, Liverpool Mercury, Windsor and Eton Express, South Wales Daily News, Walsall Advertiser, Surrey Advertiser, Reading Mercury, Mining Journal, Local Government Chronicle, Yorkshire Herald, Daily News, Daily Mail, Daily Chronicle, Standard, Yorkshire Post, North Star (Darlington), &c.*

Communications, Letters, &c., have been received from—

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